the American Perfumer and ESSENTIAL OIL REVIEW

COSMETICS · SOAPS · FLAVORS

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CONTENTS · AUGUST 1947

Mosquito Repellents
B. V. Travis 141
The Nature of Aldehydes
R. W. Moncrieff 143
Cosmetic Trends in the Mid-West
Jean Mowat 147
An Open Letter from London 149
Four Generations of Perfumers 150
Bermuda Flower Oils
Dr. J. J. Martinat 152
Short Adages
R. O'Mattick 153
Does Perfumery Belong in A Classroom?
Edward Sagarin 154
Technical Abstracts from Scientific Literature 155
Packaging Portfolio 156
Aromatic and Terpene Acetates
Dr. Morris B. Jacobs 159
Odor in Flavor
E. C. Crocker 164
Medicated and Cosmetic Soaps
S. Alperin 167

REGULAR FEATURES

Desiderata—*Maison G. deNavarre* 137
Questions and Answers 139
Washington Panorama 173
New Products and Processes 177
Harold Hutchins Says 179
The Round Table 187
Market Report 203
Prices in the New York Market 205

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Editorial Comment

Will the Excise Tax Be Changed?

Congressman Bertrand W. Gearhart, of California, has introduced H. R. 4352 for the repeal of all retail excise taxes on cosmetics, toiletries and perfumes. If enacted, the Gearhart bill would impose an excise tax on all fully-processed goods at the manufacturer's level, except on food, tobacco, distilled spirits, beer, wines and electrical energy. The present excise tax on these commodities and services would remain in effect.

It is reported that like many other members of the Senate and the House of Representatives, Congressman Gearhart has been much impressed with the irritation and discontent caused by the excise tax on so-called luxury merchandise.

Industrial Sugar Rationing Ended

Sugar rationing for industrial users was ended abruptly July 28. The step was necessitated by the failure of Congress to appropriate a sufficiently large sum of money to administer control.

To avoid what it called the possibility of a "mad scramble for sugar" on the part of candy makers, bakers, soft-drink manufacturers and other large users of industrial sugar, the Department of Agriculture promptly clamped on inventory controls.

Under the new control system, the sugar holdings of any individual are limited to 2000 pounds. Wholesalers and retailers are limited to the amount of sugar sold during the preceding month. Industrial and institutional users must hold their inventories to 140 per cent of the quantity used during the previous year.

The Associated Press reports that the end of industrial sugar rationing found most refiners in the Northeast with ample stocks on hand. Following the ending of household sugar controls there was a spurt in sugar deliveries as grocers and housewives filled empty shelves. By the middle of July this demand had apparently been satisfied. Refiners in this area now report that they have met the demand for deliveries of bulk sugar and are looking for new business.

The Test of Quality

There is no test of the quality of a product or of an institution equal to that of time. The ever increasing number of manufacturers who depend upon our organization to meet their requirements for basic raw materials is ample proof that the test of time has revealed their sterling qualities.

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Desiderata

by MAISON G. DENAVARRE

M. G. DeNavarre at work in his laboratory

SOAP FIXATIVES

A couple of new soap fixatives have just been received and although tests with them are not complete, they look like they have some possibilities. These are cyclohexyl oleate and stearate, respectively. The oleate, in particular, dissolves the artificial musks in at least a 4 per cent concentration and possibly more, with the aid of some heat. The esters themselves possess a characteristic odor, but not too pronounced. Their real usefulness is as solvent, superfatting agent and fixative in soap manufacture, particularly fine soap.

HAIR RINSE

It is a well-known fact that the outstanding difference between cold waves and waves given with the aid of heat, is that the cold wave comes down from the rods with a *softer* feel. However, since heat waves outnumber cold waves substantially, it is worth considering a new type of product developed to overcome the drying effect on the hair, resulting from the use of heat and the heat type solutions in particular. Within the past year or two, a type of cream rinse has been developed to soften, or rather to give the feeling of softness to, hair after permanent waving. The rinse is a thick, pearly, opaque emulsion or suspension—and I say suspension advisedly because that is about what it is rather than an emulsion—based on the higher alcohols or a cationic compound that has in its molecule a C_{16} or C_{18} radical. There are several such cationic compounds which can be worked into a hair rinse. While the procedure is simple, actual laboratory tests indicate that it is quite difficult to get uniform results each time a batch is made. Some batches are uniformly suspended. Others cream slightly and still others cream quite badly. The suspension requires from 5 to 10 per cent of active ingredient. In use, about a tablespoonful is mixed with from one cup to one pint of water and this is allowed to slowly trickle through the hair. Since the cationic compound is substantive to hair, it is absorbed from solution. Care has to be exercised that too much is not applied to the hair or it may feel sticky and gummy.

SOYA STEROLS

Cholesterol has been in such short supply for the last few years that some new form and source of sterols had to be located. We now find that the sterols from soybean oil production are at least experimentally available at a price equivalent to that of cholesterol. These sterols indicate possibilities of replacing cholesterol in absorption bases and possibly in a number of cosmetic creams and lotions. It is too early to describe their usefulness in this regard, but more will be written about this here at a future date.

THE PERFUME DOLLAR

Probably no branch of the industry was hit harder by rising prices than the perfume compounders or aromatics houses. Trade utterances by executives from these companies indicate that many items cost four times as much and some items, like vetiver oil, cost almost ten times as much as their prewar value. In spite of these rises, the actual increase in cost of perfume compounds was far lower than that justified by the increased cost of the materials from which the perfume compound was made.

Today the aromatics industry is already reducing prices in spite of the fact that quite a few important raw materials are still in scarce supply or at high prices.

To make your perfume dollar go farther, one of the large chemical houses has offered several perfume specialties, probably straight chemical compounds, although sold under trade name, at a rather nominal price. I have seen several of these during the past week and they look like outstanding aromatic values. These basic materials may be blended into a compound or they may be used as a base around which a compound can be developed. One, a cedar-ambrette type of product, looks exceptionally good and no doubt will find many applications. Another is a heavy, moss-like, chypre-like bouquet and this also looks like an outstanding basic material.

SPOILAGE

Again we roll around to that time of the year when spoilage due to mold growth, fermentation or rancidity, begins to be rampant. It is almost an annual subject in this column because the condition is quite common. Many times the products that spoil contain what is considered to be an adequate amount of preservative, but they seem to spoil in

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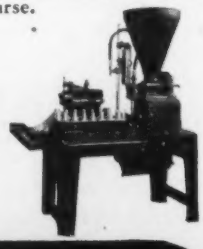

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spite of that. Occasionally, someone forgets to add preservative. Quite often a manufacturer will find that he has made a product for many years without preservative and without spoilage, only to find suddenly that the product has fermented or become moldy. In fact, to quote one recent manufacturer, he said, "We have been making this product for 15 years and it has never given us trouble—why should it do so suddenly today?"

That is the way with spoilage. A good thing to keep in mind is to increase the amount of preservative by 10 or 20 per cent in stock made for sale during the six so-called warm months. It isn't just the hot days, but it is the alternating hot days and cool nights that tend to favor mold growth, in particular. Rancidity, of course, is another thing. There is no completely reliable antioxidant that works in all fats at all times under all conditions. Materials such as NDGA, the gallates or propenyl methyl guaethol work in some fats at a given pH. When the conditions are different, these products may not work at all.

In the case of rancidity, watch out for trace metals. Copper is probably the worst. Iron is a close second. Don't think that soaps such as liquid soap will not turn rancid. They will.

In emulsions where oleic acid is sometimes used along with an alkali to form a soap, it is wise to investigate ricinoleic acid or a new "super oleic acid." Ordinary oleic acid invariably is already partially rancid when it is bought. The "super" product has one of the lowest peroxide values found so far. Ricinoleic acid does not have the chemical odor of oleic acid, which is a great help, nor does it appear to have the tendency to become rancid quite as readily.

As a preservative, don't overlook the value of 15 or 20 per cent of propylene glycol. You will be surprised at how many products can be completely preserved in this way alone.

BUBBLE BATH

One of the suppliers is offering a pretty good bubble bath in dry bead form. It has excellent bulking properties and quite good foaming properties so long as soap is kept out of the bath tub. The material is inexpensive and requires only perfuming before packaging. Of course it may also be tinted, but that would be another operation.

QUESTIONS AND ANSWERS

658. HAND CLEANSER

Q: *Will you kindly send us a formula for a white creamy emulsion hand cleanser that starts to roll off immediately when hands are rubbed together. We are enclosing a stamped addressed envelope to expedite your reply.*

S. S. S.—NEBRASKA

A: Try the following formula:

	Per Cent
(A)	
Paraffin (130-132° F.)	22.5
A blend of Sorbitan Mono-Palmitate and its polyoxy-alkylene derivative	2.5
(B)	
Water	75.0
Perfume	q.s.

Preparation: Melt (A) and bring to 55 deg. C. Bring (B) to 60 deg. C., adding to (A) a little at a time under rigid agitation. After all the water is added, stir moderately until cold. Perfume.

659. SOAPLESS SHAMPOO

Q: *We manufacture shampoos of different kinds and among others a soapless shampoo based on a wetting agent which we buy from a firm importing it from the U. S. But because it goes through two hands in Sweden the product becomes very expensive here in the shops. We would, therefore, like to import it ourselves directly from America and I wonder if you are able to give us the name of a suitable firm in the United States. Another question is soapless cream shampoo. This is very much wanted in Sweden at the moment. I have been trying different ways to manufacture such a preparation and have investigated all possible literature but did not come to a satisfying result. I would be very thankful to receive information on this matter.*

S. J.—SWEDEN

A: We suggest that you read the article on cream shampoo on page 269 of the March issue of THE AMERICAN PERFUMER. Herein you will find listed all the wetting agents by name. The best ones for the manufacture of cream shampoo are sodium cocoanut alcohol sulfate types. The supplier's names of these wetting agents are sent to you separately.

660. WATER-IN-OIL EMULSION

Q: *We would like to know the name of the supplier of the blend for a water-in-oil emulsion type hairdress, the formula for rolling hand lotion, and the name of the supplier of sachet filler and the emulsifier for the more modern types of hand lotion.*

R. S.—ALABAMA

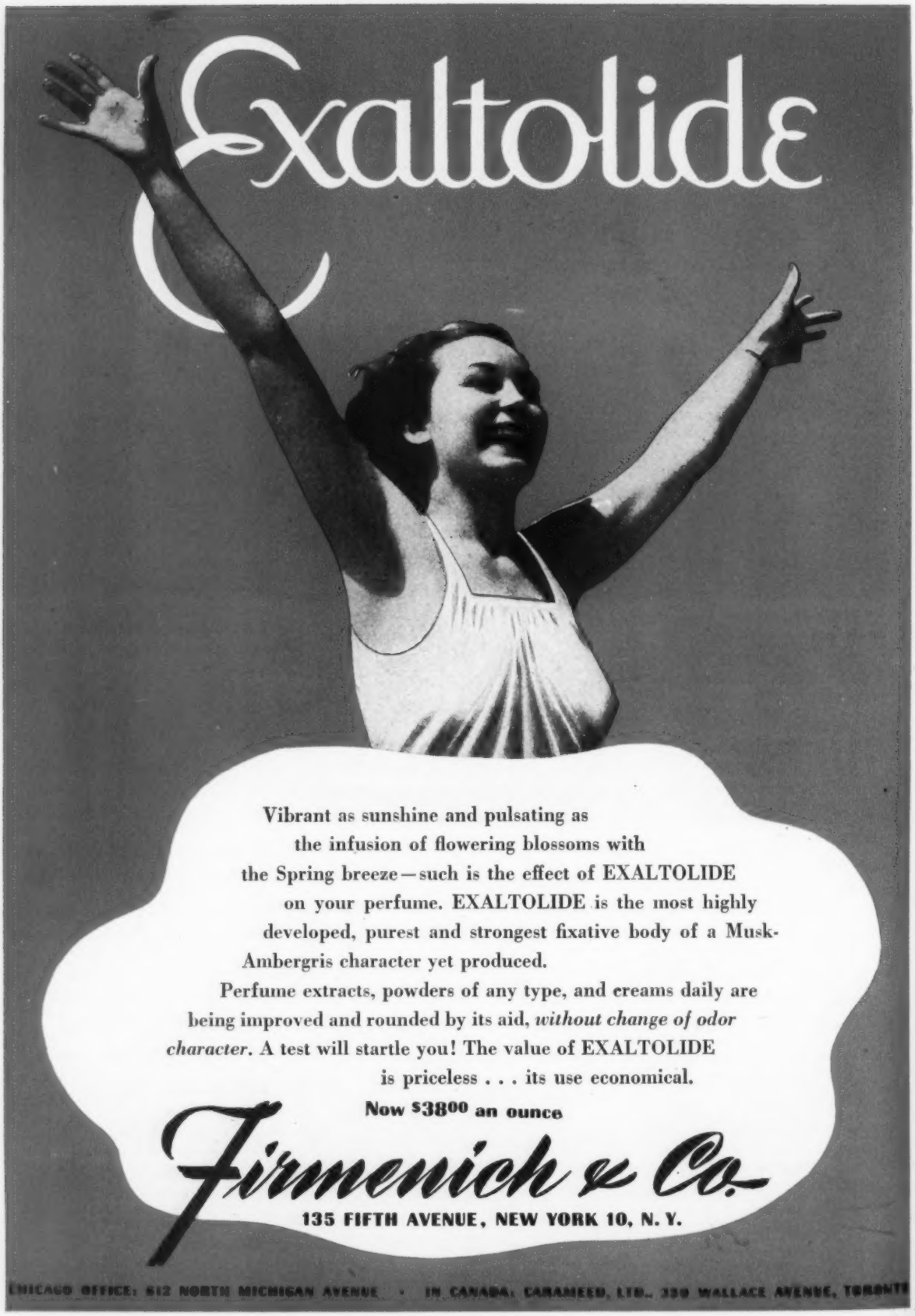
A: The manufacture of water-in-oil type of hair dressing blend is sent to you under separate cover. The formula for rolling hand lotion is as follows:

A	Paraffin (130-132 deg. F)	22.5 per cent
	Emulsifier	2.5 per cent
B	Water	75.0 per cent
	Perfume	q. s.

Preparations: Melt (A) and bring to 55 deg. C. Bring (B) to 60 deg. C., adding to (A) a little at a time under rigid agitation. After all the water is added, stir moderately untii cold. Perfume. The name of the supplier for sachet filler is sent to you under separate cover. The supplier of emulsifiers for a modern type hand lotion is the same manufacturer that supplies the emulsifier for the rolling hand lotion. A formula for such a hand lotion is as follows:

A	Stearic Acid (triple pressed)	7.0 per cent
	Lanolin (anhyd.)	0.5 per cent
	Sorbitan Mono Oleate	0.5 per cent
	Polyoxyalkylene sorbitan monostearate	2.5 per cent
B	Water	89.5 per cent
	Preservative	q. s.
	Perfume	q. s.

Preparation: Add (A) at 90 deg. C., to (B) at 95 deg. C. Stir rapidly to 30 deg. C. Perfume at 50 deg. C.



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Mosquito Repellents

Research continues on repellents to solve the problem of adequate pro-

B. V. TRAVIS* *tection against mosquitoes for longer periods of time*

THE serious insect-borne disease problems that were encountered by our troops in World War II greatly emphasized the need for satisfactory mosquito repellents. Nearly all the repellents available at that time were mixtures of citronella, oil of pennyroyal, cedar oil, oil of eucalyptus, geraniol, cresol, camphor, and similar materials. Although many of these older materials have some repellent properties, they provide adequate protection against mosquitoes for only a short time. In general they cause considerable smarting of the skin, and most of them have a strong odor.

EARLY RESEARCH

Early evaluations of repellents were based largely on opinions rather than on sound biological data. Some of the first careful work in this field may be found in reports by Bacot and Talbot (1919), Bunker and Hirschfelder (1925), Rudolfs (1930), Moore (1934), and Granett (1940). The procedure for testing mosquito repellents is to apply a standard amount of chemical, usually 1 ml., to the forearm (elbow to wrist) or 1.5 ml. to the leg (knee to ankle), and expose the treated appendages to known biting populations of mosquitoes. The time from application of the chemical to the first bite (repellent time) is used as the criterion for comparison.

With a standard method of evaluating mosquito repellents it was easy to demonstrate that the old materials were of little value. Planned research, however, has brought to light several hundred synthetic organic chemicals that far excel the citronella type of material. The first selections were made on the basis of the physical and chemical properties of a compound. Liquid organic materials that had a rather high viscosity and a boiling point around 150 deg. to 350 deg. F. were subjected to rapid screening tests. Such chemicals could be applied to the skin rather easily, and films of the materials would remain on the skin for long periods of time. It was found that only about 10 per cent of such samples exhibited repellency equal or superior to citronella. From this random sampling the following materials were found to be promising: 2-Cyclohexylcyclohexanol, undecylenic acid, *p*-methoxybenzyl alcohol, 2-(1-phenylethoxy) ethyl acetate, and N-amyl butoxyacetamide. When compounds related to these better materials were tested, about 70 per cent were found to be equal to or better than citronella. For example, it was demonstrated that the following chemical relatives of *p*-methoxybenzyl alcohol were also good repellents (Jones and Travis 1946): *p*-Ethoxybenzyl alcohol, *p,n*-propoxybenzyl alcohol, 1-(*p*-methoxyphenyl) ethanol, 2-(*p*-methoxyphenyl) ethanol, 3-(*p*-methoxyphenyl)-*n*-propanol, and *o*-methoxybenzyl alcohol. Frequently few effective materials were found in a chemical series. Of the many phthalates tested at the Orlando, Fla., laboratory of the Bureau of Entomology and Plant Quarantine, the dimethyl and methyl ethyl esters were the only two of special value.

P. Granett, at Rutgers University, has contributed much to the work on repellents, as have workers in the Naval Medical Research Institute, Bethesda, Md. The Orlando laboratory, sponsored first by the Office of Scientific Research and Development and more recently by the U. S. Army, has tested more than 6000 chemicals as insect repellents.[1]

* *U. S. D. A., Agr. Res. Adm.; Bureau of Entomology and Plant Quarantine*

This work was conducted under a transfer of funds, recommended by the Committee on Medical Research, from the Office of Scientific Research and Development, and from the Office of the Surgeon General, U. S. Army, to the Bureau of Entomology and Plant Quarantine.

[1] A list of several hundred of the most effective mosquito repellents tested from April 1942 to March 1947 is being prepared for publication.

During the course of these extensive studies of chemicals, several problems have been encountered that greatly complicate insect-repellent investigations. For instance, chemicals that are effective against one species of biting insect are relatively ineffective against another species. This variation is shown in Table 1, which gives the results obtained with some of the standard repellents against the yellow-fever mosquito (*Aedes aegypti* (L.)), the common malaria mosquito (*Anopheles quadrimaculatus* Say), and the stable fly (*Stomoxys calcitrans* (L.)). Because of the wide variation in protection time against the different species, the 6-2-2 mixture (6 parts of dimethyl phthalate, 2 parts of Rutgers 612, and 2 parts of Indalone) (Travis and Jones 1944) was recommended as being superior as a general-purpose repellent. Table 1 shows the NMRI-448 repellent (7 parts of 2-phenylcyclohexanol and 3 parts of 2-cyclohexylcyclohexanol) to be about equal to dimethyl phthalate when tested against *Aedes aegypti*. Field tests against the salt-marsh mosquito *A. taeniorhynchus* (Wied.) show the same relationship. Jachowski and Pijoan (1946) and Pijoan *et al.* (1946) show NMRI-448 to be much more effective against tropical mosquitoes than against *aegypti* or *taeniorhynchus*. Since the records on the tropical species are the results of field tests and no biting rate is indicated, the records need to be confirmed by tests made with high biting populations and under carefully controlled conditions.

TABLE 1

Average repellent time (in minutes) obtained with several preparations tested against different species of insects

Material	Aedes aegypti	Anopheles quadrimacultatus	Stomoxys calcitrans
Dimethyl phthalate	247	108	38
Rutgers 612 (2-ethyl-hexanediol—1, 3)	338	54	46
Indalone (*n*-butyl mesityl oxide oxalate)	141	42	192
6-2-2	271	147	189
NMRI-448	282	—	—
Citronella	79	15	54

REPELLENT TIME DIFFERENCES

In addition to the variation between species of insects, large differences in repellent time have been noted for different individuals. Some persons are protected for several hours, whereas others may be protected for only a few minutes under the same conditions. For example, we know of two individuals who are susceptible to bites from *Aedes aegypti* mosquitos immediately after an application of dimethyl phthalate, whereas the average person is protected for more than 5 hours. Repellent time is longer if the skin is dry than if it is wet with perspiration. Pijoan *et al.* (1946) show a repellent time for dimethyl phthalate of 267 minutes on dry skin and of 57 minutes on sweaty skin. There is also some indication that the same species of insect will vary markedly from time to time in its reaction to repellents. In addition, low populations of biting insects seem much easier to repel than high populations.

One of the most discouraging problems encountered in the study of insect repellents is the high toxicity of the more promising compounds to the persons being treated. A large proportion of materials found to have satisfactory repellent properties are either too irritating or cause such serious systemic injury that they cannot be used safely on the skin. This phase of the problem is being studied by J. H. Draize and his staff in the U. S. Food and Drug Administration.

It should be pointed out that the data in Table 1 are the results of tests with undiluted chemicals. The addition of an inert ingredient, such as alcohol, usually reduces the repellent time. Undiluted dimethyl phthalate may give a repellent time against *Aedes aegypti* mosquitoes of over 200 minutes, but with a mixture containing 25 per cent of dimethyl phthalate and 75 per cent of ethyl alcohol the repellent time averages only about 30 minutes.

Much effort has been made to develop creams that will greatly extend the repellent time. Some vanishing-cream and cold-cream preparations have given protection equal to that given by the active ingredients, but none have given protection that greatly exceeds that of the undiluted ingredients. These cream-type preparations may contain only 10 to 25 per cent of the repellent, but some may be stable if they contain up to 40 to 60 per cent. The proportions of each ingredient vary greatly with the type of liquid repellent used. For experimental purposes the Orlando laboratory has found the following formula to be satisfactory for many of the liquid repellents: Stearic acid 40 gm., potassium carbonate 0.6 gm., glycerol 12 ml., water 68 gm., and liquid repellent 80 ml.

POWDER PASTES TESTED

In addition to the creams, numerous powder pastes have been tested. These preparations contain such powders as bentonite, china clay, and zinc oxide, and frequently resins and plastic materials, the liquid repellent serving as the moistening agent. The proportions of each ingredient necessary to make a paste of suitable texture vary with the powder used. A paste which has been used at Orlando as a standard contains 65 per cent of liquid repellent, 33 per cent of bentonite, and 2 per cent of calcium stearate. In general, these pastes provide more protection than the creams or undiluted liquids, but they usually do not spread readily and are not cosmetically acceptable.

RESEARCH CONTINUES

Research on repellents is continuing and it appears that most of the problems will not be solved in the immediate future. At the present time only dimethyl phthalate, Rutgers 612, Indalone, dimethyl carbate (cis-bicyclo(2,2,1)-5-heptene-2,3-dicarboxylic acid, dimethyl ester), and mixtures of these materials (Travis *et al.* 1946 a and b) are recommended by the Bureau of Entomology and Plant Quarantine. Several other promising materials are under investigation by the Food and Drug Administration to determine whether they are safe to use as insect repellents.

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THE NATURE OF ALDEHYDES

*The structure, characteristics and the range of odors of aldehydes and their use in perfumery are discussed by the author**

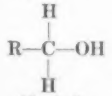
R. W. MONCRIEFF

ALDEHYDES are characterized by the presence of a doubly bound oxygen atom and a hydrogen atom on the same carbon atom. The lighter load of the hydrogen atom tends to make the carbonyl group more reactive and in general the aldehydes undergo reactions more readily and briskly than the relatively sluggish ketones. In some cases they undergo reactions which a ketone will not do at all.

Aldehyde

Ketone

They may also be considered as intermediate between alcohols and acids.



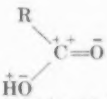
Alcohol

Aldehyde

Acid

The doubly bound oxygen imparts to them greater reactivity than the alcohols, while at the same time they are considerably less stable than the acids. I think this lack of stability is to be expected on electrochemical grounds. We can see that in the acids the two strongly negative oxygen atoms reinforce each other and make the carbon atom to which they are attached strongly positive, but in the aldehydes the electro-negative action of the oxygen atom is opposed to the electro-positive influence of the hydrogen atom, and these opposing influences confer instability. As Lapworth would have written it according to his theory of alternating polarities,

Aldehyde (unstable)



Acid (stable)

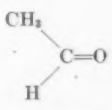
The aldehydes are reactive, unstable and volatile and it would be expected that these properties would confer an interesting range of odors, and, of course, as is well known, so they do. There are, however, two corollary points that have to be noted. Firstly the volatility of aldehydes may be excessive so that in perfumes they lack persistence, and the use of a suitable fixative to confer some degree of retention of odor is often important; secondly their intense reactivity and instability (in many cases) means that on exposure to the atmosphere they are inclined to oxidize and as a matter of fact many aldehydes are unsuitable for use in perfumery because of this defect.

In spite of their instability the aldehydes represent a very important class of perfume constituents. Very often a trace of an aldehyde will lift a perfume out of the rut and lend it a distinction it otherwise lacked. The aldehydes as a class are powerful odorants and have to be used with a nice discretion; it is very easy to use too much of an aldehyde and completely ruin a posée. To a large extent the olfactory properties of aldehydes were investigated by Gildermeister, Schimmel and Wallach some 40 years ago.

ODORS OF THE LOWER ALDEHYDES

Everyone will be familiar with the pungent odor of formalin which is a 40 per cent solution of formaldehyde in water. Formaldehyde as the lowest member of the group is particularly reactive and failing anything else to combine with, it will react with itself to form polymers such as paraformaldehyde $(CH_2O)_3$ and polyoxymethylenes. As is always the case, polymerization tends to reduce odor, and these polymers have odors less intense than that of formaldehyde itself.

Acetaldehyde, the next member, has a sharp disagreeable odor, as well as exerting a pungent painful attack on the nose.



It, too, readily polymerizes and one of its polymers, metaldehyde, has a refreshing tonic odor, which the writer at least finds rather pleasant in dilution.

The effect of unsaturation in the lower members is to increase the acrid irritating note of aldehyde. Acraldehyde

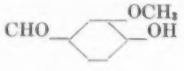
* This article will be continued in the September issue of THE AMERICAN PERFUMER.

CH_2 : CH . CHO more commonly called acrolein, is the simplest unsaturated aldehyde and is unbearably irritating. It is in these days a useful material for some chemical syntheses and the writer once had occasion to have it made in his laboratory, and although precautions were taken to avoid escape of the acrolein into the room, some did actually escape when changing receivers and the laboratory very quickly became uninhabitable. In very small quantities it is formed when a tallow candle is extinguished. The corresponding acetylenic body, propiolaldehyde CH : C.CHO with the triple bond also has an intensely irritating odor. The general effect of unsaturation on the odor of aldehydes is to enhance the acrid note.

In the saturated series the two members which follow acetaldehyde, namely propionaldehyde CH_3 CH_2 CHO and butyraldehyde C_3H_7CHO have rather suffocating odors, but as the series is ascended, the pungency of the odor of the aldehydes diminishes and the pleasant note becomes dominant. Still higher in the series the odor falls off, owing to the onset of high molecular weight, reduced volatility and greater insolubility, these being features common to the higher members of practically all homologous series which depress the odor. Stearic aldehyde, or stearaldehyde, for example, has only a faint waxy aroma.

INTRODUCTION OF HYDROXYL GROUP

The usual effect of introducing a hydroxyl group into a substance is to depress the odor, probably because the lipoid solubility is simultaneously depressed, whereas the solubility in water is greatly increased. Although acetaldehyde CH_3 CHO has such an intense penetrating odor, yet the corresponding hydroxylic compound CH_2 OH.CHO glycollic aldehyde, is odorless. The simplest dialdehyde, glyoxal CHO.CHO, is also odorless. It will be found that in the aromatic series many of the aldehydes with intense odors do contain a hydroxyl group in their constitution, e.g., vanillin.



It may be noted, too, that whereas the introduction of a hydroxyl group into an aldehyde depresses the odor, etherification of that group restores the intensity of the odor, probably because it makes the substance so much more readily lipoid-soluble.

AROMATIC ALDEHYDES

Benzaldehyde C_6H_5CHO is the main constituent of oil of bitter almonds and is indeed entirely responsible for its well-known odor. Nitrobenzene which has an odor similar to, although coarser than that of benzaldehyde was at one time used as an adulterant, but that was in the relatively dark ages and for a long time past benzaldehyde has been prepared synthetically in a state of high purity, usually from toluene through the chlorine substituted (side-chain) compounds.

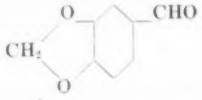
Cinnamic aldehyde C_6 H_5 . CH : CH CHO is the chief constituent of oil of cinnamon made from cinnamon bark and has a pleasant spicy odor. It occurs also in oil of cassia to the extent of 80-90 per cent. Bogert and Powell[1] prepared some derivatives of cinnamaldehyde including 2 ethyl hydrocinnamic aldehyde C_6 H_5 CH_2 . CH (C_2 H_5) CHO. It is, I think, very striking that cinnamaldehyde is phenyl acrolein and yet has an odor so very different from that of acrolein. True, we should expect the phenyl group to impart an aromatic note but the enormous disparity between the pleasant spiciness of cinnamaldehyde and the pungent suffocating acrolein seems to me little short of amazing

CH_2 : CH · CHO
Acrolein

C_6 H_5 CH : CH · CHO
Phenyl acrolein
(cinnamaldehyde)

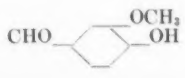
It may be noted though that furfuryl acrolein has an odor reminiscent of cinnamon bark. The corresponding saturated body, phenyl propyl aldehyde C_6 H_5 CH_2 CH_2 CHO or hydrocinnamic aldehyde has an odor reminiscent of both cinnamon and hyacinths, but which is less intense than that of cinnamaldehyde. The next lower member phenyl ethyl aldehyde C_6 H_5 CH_2 CHO has a hyacinth odor and is used extensively in a large variety of perfumes. As phenyl ethyl aldehyde or phenyl acetaldehyde is of importance in the preparation of perfumes its synthesis has attracted some attention. It has been suggested in Russia[2] that a suitable method of synthesis from β-phenyl ethyl alcohol is by catalytic oxidation in the vapor phase over metallic silver. The vapor is at a temperature of 350-400 deg. C. and the silver catalyst at 550-570 deg. C. and under a partial vacuum. The products emerging from the catalysis chamber are condensed and collected. On fractionation *in vacuo* they give a product 90 per cent phenyl acetaldehyde and 10 per cent phenyl ethyl alcohol.

It may be noted that the corresponding acetylenic compound phenyl propiolic aldehyde C_6H_5 C : C CHO has a pungent odor. Whatever may be thought of modern theories of odor it is very clear that the old idea of the parallelism between odor and unsaturation has still much to be said for it. Piperonal or heliotropine is dioxymethylene benzaldehyde and has the odor of heliotrope or "cherry pie."



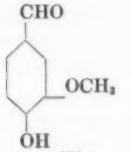
It is interesting to note that the "mustard oil" p-thiocarbimide benzaldehyde has a strong odor similar to that of heliotropine.[3] Anisic aldehyde is known commercially as Aubepine and is essential for artificial hawthorn perfumes, and, indeed, its heavy odor is also found useful in compounding lilac, mimosa and wallflower perfumes. Aubepine is now made by the oxidation of anethole, which occurs in star-aniseed.

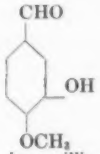
Vanillin is the aromatic principle of vanilla. It will be seen that it has the 1, 3, 4 or "ideal" arrangement of substitution. This ideal configuration is shared by many pleasantly odorous compounds such as piperonal, safrole and eugenol[4] but it has been shown that this configuration does not always give a perfume. Vanillin acts as a fixative and blender in perfumes. It will sweeten any perfume, combines well with most and will give body to a "thin" perfume.



It may be noted that the odor of isovanillin changes with change in temperature, for at room temperature it has a

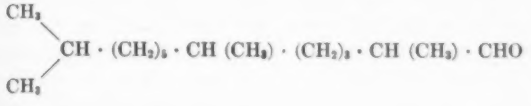
mixed odor of vanilla and anise but when warmed smells solely of vanilla.


vanillin


isovanillin

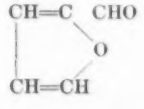
EFFECT OF CHAIN BRANCHING

The olfactory effect of chain branching is particularly noticeable in the aldehydes, and the branched chain substance invariably has a stronger odor than has its straight chain isomer. For example, 2,6—dimethyl heptyl aldehyde $CH_3\ CHCH_3\ (CH_2)_3\ CHCH_3\ CHO$ has a stronger and pleasanter odor than nonyl aldehyde $CH_3(CH_2)_7CHO$. Similarly myristaldehyde $CH_3\ (CH_2)_{12}\ CHO$ the straight chain aldehyde has only a faint fatty odor whereas its isomer 2,6,10—trimethyl undecylaldehyde (norhexahydrofarnesal) has an unusually pleasant and refreshing odor.[5]

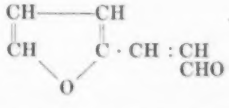


HETEROCYCLIC ALDEHYDES

Furfural is the most important heterocyclic aldehyde from the olfactory point of view. It has a rather sweet sickly odor, very similar to that of new bread. It can be manufactured cheaply from bran and is in fact thus made; its constitution is



It is largely responsible for the odor of newly baked bread. Furfuracrolein has an odor like that of cinnamon bark



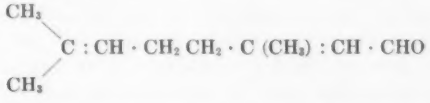
R. Michelet investigated the odors of some of the α-alkyl furfuracroleins and reported them in a thesis (Lyons, 1932). The following are of interest.

furfuracrolein		cinnamon bark
α – methyl furfuracrolein		mild fragrant cinnamon
α – ethyl furfuracrolein		mild leathery aromatic
α – isopropyl furfuracrolein		strong, clover, cedar
α – amyl	"	green note and amber
α – hexyl	"	mild green note
α – heptyl	"	very mild green
α – octyl	"	very feeble
α – nonenyl	"	feeble ambergris
α – decyl	"	inodorous

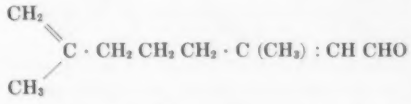
From the olfactory standpoint this is a most interesting series.

TERPENE ALDEHYDES

The terpene aldehydes are not so powerful as the higher fatty aldehydes and can be used in perfumes in larger quantities. Citral is the commonest of the terpene aldehydes and is found in oils of lemon, lemon grass, limes, verbena, orange-rind and ginger. It is cheaply obtained from lemon grass and has a pleasant lemony odor. It is a mixture of geranial and neral which are *cis* and *trans* forms of the compound 2 : 6 dimethyl-$\Delta^{2,6}$-octadien-8-al.

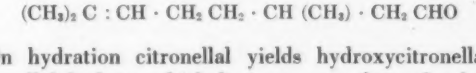


probably mixed in the natural oils with their isomer



Citral will condense with acetone to give the ionones, basis of most cheap violet perfumes.

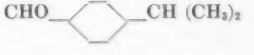
On partial reduction citral gives citronellal which occurs naturally in oil of citronella. Its constitution is



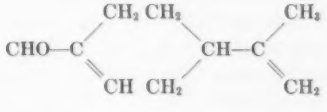
On hydration citronellal yields hydroxycitronellal or citronellal hydrate which has come much to the fore in recent years as a valued perfume component and which will be described in some detail.

CUMINIC ALDEHYDE

The simplest cyclic terpene aldehyde is cuminic aldehyde

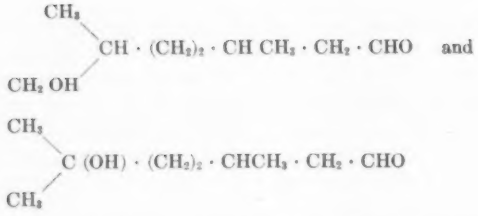


This occurs naturally in oils of cumin and myrrh. One of its derivatives is perillic aldehyde a natural constituent of oil of perilla.



HYDROXYCITRONELLAL

This valuable synthetic perfume is a variable product in which citronellal hydrate predominates. As it is very liable to undergo polymerization it should be stored in full containers in the dark. The best commercial samples have a density at 15.5 deg. C. of 0.930 and an optical rotation of +8 deg. to +10 deg., with refractive index measured at 20 deg. C. with sodium light of 1.448-1.455. Physically it is a viscous liquid. It has a fine lily-of-the-valley note and is valuable for this (muguet) as well as hyacinth, narcissus and sweet pea perfumes. The constitution of the main component is $(CH_3)_2\ C\ :\ CH\ (CH_2)_2.CHCH_3.CH_2\ CH\ (OH)_2$, from which it will be seen that the aldehyde group —CHO of citronellal has been hydrated to —CH $(OH)_2$. Burger[6] has, however, put forward two other possible formulae. These are



It is stated[7] to be unsuitable in general for perfuming soap as it decomposes rapidly in soap and the decomposition products have a rancid oily odor, but that this decomposition can often be prevented by combining the hydroxycitronellal with its own weight of methyl anthranilate when an odor intermediate between sweet pea and furze results. The germicidal value of hydroxycitronellal has been discussed by Penfold & Grant.[8]

Many methods of preparation of hydroxycitronellal have been devised and patented and most of them bear a strong family resemblance.

One method protected[9] in Japan before the war was as follows:

Citronellal derived from citronella oil is converted to its bisulphite compound. (It is a property common to all aldehydes and most ketones to combine with sodium bisulphite Na HSO_3 to give crystalline addition products). The bisulphite compound is dissolved in a mineral acid and then neutralized with sodium bicarbonate. This produces the sodium bisulphite compound of hydroxy-citronellal, the hydration having been brought about by the mineral acid. The addition compound is decomposed with formaldehyde which owing to its preferential affinity for it, robs the hydroxycitronellal of the sodium bisulphite. This preparation of the free hydroxycitronellal from its bisulphite compound is very neat indeed, the formaldehyde carrying out the job smoothly under conditions which avoid polymerisation.

A Russian method[10] said to be satisfactory on production is as follows:

Citronellal is prepared from citronella oil and is converted to the bisulphite compound which is hydrolyzed by the action of hydrochloric acid and then the hydroxycitronellal-bisulphite compound is decomposed by the action of caustic soda solution. It is said that a 30 per cent yield of hydroxycitronellal suitable for perfumery purposes, that is of very high standard, is obtained. The whole process on a plant scale takes 80 hours.

Meuly[11] has described another method:

Citronellal is treated with an alkali metal bisulphite, such as Na HSO_3, in a medium miscible with sulphuric acid, such as water, and the bisulphite compound is separated. It is filtered and washed with an inorganic liquid such as benzene or toluene (or a mixture of them) which is inert and is of only limited solubility in 50 per cent sulphuric acid compared with water and of which the freezing point is sufficiently low for it to remain in the liquid phase at the temperature of hydration which may be at or below 0 deg. C.

A rather later U. S. patent[12] describes the following method:

Citronellal is reacted with a mixture of sodium sulphite Na_2SO_3 and sodium bicarbonate to give citronellal hydrosulphonic acid. The reaction compound is filtered off and re-dissolved in water. Concentrated hydrochloric acid is added and the mixture allowed to stand at a temperature between 10 deg. and 35 deg. C. to promote the hydration. Two-thirds of the contained water is then removed by evaporation, the by-products are extracted from the concentrate, and caustic soda solution used to liberate the hydroxycitronellal in the presence of a large excess of toluene.

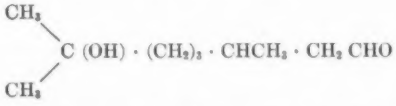
As noted earlier, all the methods bear a strong family resemblance. The general idea is to prepare citronellal from citronella oil, convert it to the bisulphite compound, hydrate this with mineral acid to the hydroxycitronellal-bisulphite compound and free the hydroxycitronellal with caustic soda solution. The Japanese modification of using formaldehyde instead of caustic soda for the last step appears to be very sound and probably increases the yield by avoiding conditions liable to bring about decomposition or polymerisation of the hydroxycitronellal.

USES OF HYDROXYCITRONELLAL

A review[13] of the uses of hydroxycitronellal has been published.

A compound which may have been dihydroxycitronellal and which was an aldehyde with an odor entirely different from that of hydroxycitronellal was prepared by Sornet.[14] He oxidized citronellal methyl acetal with alkaline potassium permanganate to give what he believed to be dihydroxycitronellal methy acetal. This was saponified with acetic acid and then treated with sodium bisulphite from which the aldehyde (dihydroxycitronellal ?) was freed by one of the usual methods. This reaction, the writer suggests, may well be worth looking into again.

In a recent discussion on hydroxycitronellal and related compounds, Müller[15] uses the formula



It must be admitted that in view of the strong aldehydic properties of hydroxycitronellal any formula which leaves the characteristic -CHO group intact is to be preferred to the rather more usually accepted formula embodying the -CH $(OH)_2$ group. Müller states that the observed parachor is 439.1 while the calculated is either 449.5 or 453.2. The molecular weight of hydroxycitronellal determined in benzene solution shows that it is not strongly associated. On standing there is a slow but noticeable change in physical characteristics which may indicate that an "aldol" polymerisation is going on. In 185 days the viscosity of a sample rose from 30.7 to 52.5 centipoises, and the refractive index (measured at 20 deg. C. in sodium light) rose from 1.4499 to 1.4531.

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[1] M. T. Bogert and G. Powell, *J. Amer. Chem. Soc* **53,** 2747 (1931).
[2] A. R. Guseva, *Khim, Referat. Zhur.* **4,** 112, 1940.
[3] G. M. Dyson, *Chemistry & Industry* **57,** 647-51 (1938).
[4] R. W. Moncrieff, "The Chemical Senses" p. 224 (1945).
[5] J. von Braun & E. Anton, *Berichte* **62B,** 1489-91 (1929).
[6] A. M. Burger Riechstoffindustrie **1927,** 23-5 (1927).
[7] F. Cola *Riechstoffindustrie* **1926,** 201-2 (1926).
[8] A. R. Penfold & R. Grant, *J. Proc. Roy. Soc. N.S. Wales* **60,** 167-70 (1926).
[9] M. Haneda & J. Haneda, *Jap. Patent* 109568 (1935).
[10] S. S. Nametkin & O. M. Khol'mer, *Khim, Referat. Zhur.* **4,** 119-120 (1940).
[11] W. C. Meuly (to E. I. du Pont de Nemours & Co., U. S. Patent 2,235,840 (1941).
[12] A. C. Flisik & L. Nicholl (to Kay-Fries Chemicals, Inc.), U. S. Pat. 2,306,332 (1942).
[13] L. M. Labaune, *Rev. marques. parfums France* **17,** 82-4 (1939).
[14] R. Sornet. *Rev. chim. ind.* **37,** 74-8, 110-113 (1928)
[15] A. Müller. *Berichte* **74B,** 1745-50 (1941).

Deodorants moving into better selling positions . . . Buyers want men's toiletries in men's sections of stores

JEAN MOWAT

COSMETIC TRENDS IN THE MID-WEST

"IT may be that the cosmetic manufacturers feel there is a depression on the way," commented a leading retail buyer, "for we are being offered the depression size of jar—and rejecting it," he said.

A survey found during the war only the larger packages and jars were offered. This was good business for in such a jar one received more value than in a small one. Sales were steady. Repeat business continued to show an improvement.

Why should a buyer stock a smaller jar than the ones now offered? As the best lines are in a large, medium and small size there is no need for another smaller size, assert buyers, "certainly our sales people will sell the larger jar and when the sale appears to be slipping suggest the small one. When this is done there is usually a repeat for the larger jar. We have no intention of making our department one of small and smaller jars."

This buyer frankly admitted there was a place for the smaller jar—the chain store. But no buyer interviewed saw a reason for a change in the size of the present established sizes. It will only make such a presentation difficult selling. One example cited was a fine product which had sold all during the war at $1.25 and which was offered the buyer to retail at 75¢. The store had traded up from the 75¢ item when it passed out during the depression to the larger size. No customer has complained about the price and under those conditions there is no acceptance of the less expensive pot.

BUBBLES ARE BACK IN FIRST PLACE

Bubble bath preparations, from tablets and powders to marbles have been shown and featured. A few months ago buyers were selling out the bubble types and predicting these had reached a peak of consumer sale. Then when the public found these hard to get there was an unprecedented demand for them. During the past month the gay colored marbles have simply walked off the counters—by cash customers—because they looked so pretty. As it stands now the buyers are as selective in their bubbles as the customers, and new orders are placed for those which have proved their value.

In this same category of returned activity are bath salts. Some are handsomely packaged and high priced, but sell; others in bags are sold in half dozen scents and repeats continually are made. Some few years ago one house found that its salts were not selling too well. A smart woman conceived the idea of tossing a handful of salts into the basin when fine lingerie was washed. It gave a very delicate fragrance, but even more important, it combined with fragrance a softener for the water.

Throughout the Middle West water is generally very hard water and if manufacturers of bath salts would include this idea on the label it would increase the sales without any effort or added advertising. The combined idea of soft water for lingerie and a fragrance that lingers after washing would sell any woman.

SOAPS ARE AGAIN IN THE LIMELIGHT

The reduced prices on soaps have begun to move these in volume. Instead of the recent selling of one cake, an entire box can now be sold, without any more effort. The Golden Rule, St. Paul, is one store that took advantage of this and used a large ad to tell of the bargains now available. Sales were excellent. The price was one half of that which had been quoted earlier and was a part of the July sale.

NEW LEG TINTS ACTIVE

Many stores have counters featuring reductions on leg tints, when the Middle West is only now getting enough sun and warmth to dry out from its spring-summer floods. These are the ones which were supposed to make a leg look like a normal sun-tan. But the only active sellers in the field are those that have the new dark effects to stimulate the new grays, browns and some even say blacks. What to do about the heel was asked one merchandiser and he said he'd not thought of that. "Anyway, the stuff sells in these new shades so I'll let the gals worry about their heels. The results are pretty smart on a number of women for they are now able to apply it with skill," he said.

COLOGNES

Summer time colognes have been given a great boost by the widespread advertising on solid colognes which can be had in a choice of fragrances.

Several stores report that the upturn in sales has been far beyond their plans. These were stores that had generally switched over to liquids and had decided to clear out the solid variety. These sold so well that women liked them and came back for more. Chapman's, Milwaukee; Dayton's, Minneapolis, and Hudson's, Detroit, have pushed them.

Carson Pirie Scott & Co., Chicago, had a display case

in which there was a mound of dry ice and against this, was the display of solid colognes. The setting was unique, it was ideal for hot days and the sales were in excess of the planned figures. Yet these sales did not seem to cut into the regular liquid colognes which have reached an all-time high this year.

The peak selling in colognes is attributed to the high priced perfumes, which, plus the excise tax, mount up rapidly. That colognes will hold an important place is expected. The hand-blown bottles in hand-made boxes which sell from $50 up are not moving with the speed with which they moved one year ago and there is some question as to the future of such presentations.

Dram sales in the popular priced stores and in style establishments have exceeded what was expected with the heavy sale on colognes. The heavy convention trade selected several drams for such a choice gave a woman a chance to have a perfume for various moods.

One buyer related his annoyance at women who went down the aisle of the store and pulled the stopper or unscrewed the top of all the bottles on display . . . and then far down at one end were some bottles over which they purred—"just purse size" was the comment. When opened they got a sharp whiff of aromatic spirits of ammonia!

LIP-STICK COMBINATIONS

The trade is interested in observing the consumer reaction to the various combinations of lip-sticks: some have brushes, others have mirrors. Prices, color selection and acceptance is being watched. Clear reds are the day-time choice; darker colors in all sticks continue to be asked for with not too satisfactory results. There is a trio set that offers lip-stick, rouge and powder and which has been well featured throughout the Middle West. It is not considered an item that runs into large volume, but because of the shifts which have been going on, the opinion is that of the buyers against that of the consumers. It may prove a smart item for the back-to-school promotions which are on full blast.

For evening wear there is a trend that is orchid in tint. This is being watched to see whether it stays in this range or goes into the purple tones as darker clothes are worn this fall.

TRAVEL KITS MUST BE LIGHTER

During the war when only military personnel traveled by plane there was a heavy demand for fitted traveling kits. The more jars and bottles, either filled by the company who sponsored the kit, or empty ones to fit with one's own special cosmetics, the better and quicker the sale. Today there is a slight trend toward a demand for smaller jars and bottles, for less weight and even for a complete change-over from today's present packing.

CREAMS IN TUBES?

One of the country's leading stylists and a fashion expert of national renown stated that she hoped it would soon be possible to purchase her favorite creams in tubes—like the tooth paste tubes—so that as these were emptied they could be discarded and she'd not have to make round trips with them—as she does with jars and bottles.

When this idea was put up to salesmen in the cosmetic business they gasped. Buyers looked askance. Clerks promptly said it was a five-and-ten item and no leading company would think of offering such a kit. In these days when only 40 pounds is allowed for a flight and 10 of this goes into the cosmetic end there isn't much left for shoes and a couple of suits.

WHAT THE BUYERS TALK ABOUT

Deodorants are moving into better selling positions every day. Liquid make-up bases are gaining new followers and closely allied to this sale are liquid rouges. Both may be important this winter but buyers are only talking about them. Eye-pads and washes are being given much conversation and many sales made. Blemish concealers are out in front in many stores. "It makes no difference whether one uses powder or a cream powder or cake powder, all are good and merely a consumer's choice," is the verdict in the buyers' offices.

New clerks need instruction: Mascara is back and too many apply it solid, whereas some instruction would make it serve its purpose. Chain drug stores will resume training courses in September. About a year ago one of the chains reported that the sale of home waving kits was reaching an expected high. It is still climbing, despite the national advertising of the hair dressers who advocate the need of a correct permanent.

Buyers who have men's toiletries in the department want them in the men's section where there is good business. In the general cosmetic section men will not purchase but do in their own division. Some changes may be expected. Marshall Field & Co., Chicago, has a very active department in its men's stores. Hudson's, Detroit, had an unusual announcement telling of all that it carried for his majesty—The American man . . . but he had to go into the regular cosmetic section to obtain any of it. When Lytton's, Chicago, made a separation of its departments several months ago there was a marked upturn in sales. The Fair's section in the men's department is much more active in Chicago than is the division in the regular cosmetic section.

This is a sales presentation which needs study and each city will find its own level as the lines are reduced to stable sellers.

Canada Prepares Guide on Cosmetics

The Honorable E. L. Martin, Health Minister of Canada, in speaking to the Canadian Pharmaceutical Manufacturers' Association, has disclosed that the government is to regulate ingredients going into goods channelled to the Dominion's retail markets.

"Our scientific men are not out to dispel the aura of romance associated with the cosmetic art," he said.

"The intent of the legislation applying to cosmetics will be to afford the consumer such protection as seems needed against possible harmful ingredients," said Mr. Martin, "and to see that the labelling and advertising of cosmetics is at least truthful and free from misleading and grossly exaggerated claims."

Turning to matters of less interest, but equal importance to consumers, Mr. Martin said the Drug and Food Division of the Health Department is preparing a guide to manufacturers and advertisers indicating "what terms and expressions are acceptable in drug and related advertising."

An Open Letter from London

Dear Editor:

They believe that kind of courage belonged with the war years to which they gave it, but this situation needs a good "gripe" . . . and they are "griping" like mad. It has a healthy note to it, though. They are acting like G. I.'s in a camp that has a bad cook.

ALL CONTAINERS ARE STANDARDIZED

The manufacturers have a rough time of it. The government may direct a manufacturer as to what he should do with allocated merchandise. One glass factory produces nothing but milk bottles, another must provide window panes, a few factories supply medical bottles and bottles for other industrial purposes, and finally the cosmetic industry . . . gets a little. All the containers are standardized, and private molds for the small manufacturer are out of the question. It is difficult sliding for the little man who depended on pretty packages to sell his wares. Most of the difference in the packages today lies in the label that tells the brand. The English buying habits are good for established brands. They have a loyalty to the old—a reticence to try the new. Most people realize that the containers are a lost cause so they look to the contents and buy entirely from that angle. They positively do not buy on presentation.

Delivery is grim. One manufacturer who supplies beauty parlors with cosmetics and creams told me he ordered 100 gross of 2 oz. jars in August, 1945, and received 1½ gross in December, 1946. A year and a half to get your hands on a container means you have to be a patient man. In December, 1946, he placed another order for 100 gross and was cut down to 25 gross. He received 15 gross of this by June, 1947. I seem to remember going through a similar period in America.

I was amazed to find the universal acceptance of the purple-bluish tone of lipsticks and the general vote in favor of the rosy-pinks. I would have believed these women would remain with the oranges and the conservative red-reds for a long time to come. They seem to find the tangerine shades hard to get along with.

I don't think England is suffering now. The cold was the worst thing they have had to fight yet and they got past that. They have incredibly forgotten the "blitz," but they painfully remember the bite of last winter and the hunger of heat and light.

England is in the clutches of a monotonous, inadequate diet that has slowed up the people considerably. They are "done in" and dissatisfied and some of them are saying so very loudly. They are demanding better and more rations through such organizations as the British Housewives League.

SHORTAGE OF LABOR

Then, too, there is a labor shortage that calls for two people doing the work that three people would do in normal times over here. But the extra drive that is needed in order to spread two people over three jobs is missing for at least two reasons. First, the people are physically apathetic because of their diet deficiencies, and second, the fear factor in their job has been removed. They do what they think they are able to do at their work, and employers put up with a great deal because in some instances they cannot dismiss them.

Everywhere there are gigantic posters and signs asking for greater effort . . . one last successful push. The English feel that they gave that through those last, lost years and they want the government to provide them with the things they need now. They are not being noble and don't pretend to be.

The tax on cosmetics would sweep you off your feet. It is referred to by people in the industry as a 100 per cent purchase tax and it is most prohibitive. Everything is 30 per cent more expensive than in America because of the purchase tax. Before the war people bought more and used more. Now the scarcity angle is acting on the behavior of the women. There just isn't enough of a certain type which they would like so they save it and use it sparingly.

Advertising space shortage would make you weep. They tell me it takes six weeks to get a newspaper ad inserted. There is practically no advertising; no coherent publicity campaign in any direction; no planned, co-ordinated drive as before the war.

It is not too astonishing that this nation of gardeners should prefer the floral fragrances in perfumes and colognes as they do. They seem to consider heavy scents the prelude to a bad headache. Their lavendar is still the best in the world, I guess, and easy to get. Then there is much of the Violet Water with its background of Devonshire violets and also the fragrance of English Rose. Even *I* can taste spring again when I smell that. The perfume trade is picking up quite quickly. During the war there was quite a bit of research done here when England was cut off from France. They have made strides . . . but fixatives are still their big problem. The bases are of good materials but they are not too plentiful. Essential oils have improved on a large scale but they are very expensive in relation to their worth. Some are made in England—some are imported.

The English are upset about some of the things that have been written about them in the States. They don't like to read that they are going down for the third time because it isn't helping them to recover any faster and it isn't making them Anglo-American to the core either. I guess no one wants to know that his alleged death rattles are heard across an ocean. Actually, I don't think disintegration is imminent. There isn't too much wrong here that crates of oranges a day wouldn't help.

MARY BROWN

Penicillin in Cosmetics Banned

A ban on penicillin in cosmetics has been initiated by the British Government whose Penicillin Bill had its second reading in the House of Commons on June 9th. Almost unanimous opinion urges the prevention of the use of penicillin in cosmetics, creams, lipsticks, etc.

The fear presented is, of course, that this drug, which proved to be such a success during the war years, may be proved ineffective by uncontrolled use, and that uncontrolled exploitation for commercial use should be avoided.

Speaking in the debate, the Minister of Health said that eminent people, including Sir Alexander Fleming, the discoverer of penicillin, had expressed the opinion that there would be grave dangers to the public health if the substance were in unrestricted sale and consumption.

Four Generations of Perfumers

ON February 3, 1823, in a New Hampshire house of simple beauty, a son was born to Abner and Mercy Child Palmer. He was christened Solon Palmer.

Young Solon, inquiring of mind, turned to books and on reaching maturity, left his ancestral home in New Hampshire to seek his fortune as a teacher in Cincinnati, Queen City of the West.

On August 13, 1847, he founded his own business and began the manufacture and sale of perfumes and other toilet articles.

Old maps of Cincinnati show West Fourth Street lined with fashionable shops. Number 8 was owned by the Presbyterian Church, which had thriftily erected its church in the rear of its property, while using the front for commercial buildings. For No. 8, Solon Palmer paid a monthly rental of $16.67.

At that time, Cincinnati was the gateway through which many of the nation's pioneers passed. Their purchase, for themselves and their wives, of Solon Palmer's New Mown Hay, Rose Geranium, Cologne, Lavender, Bear Oil Pomade, and Beef Marrow soon had his business thriving.

As the new firm grew, Solon Palmer was forced to hire a "helper" at a salary of $3.00 per week, and soon moved to larger quarters. In fact, a series of moves ensued until the business was finally established in a large shop at 36 West Fourth Street, where it continued to remain during Solon Palmer's Cincinnati days.

Representatives, or "drummers" as they were then known, not only sold Palmer merchandise in the populated areas, but moved Westward with the expansion of the country.

For some years, Solon Palmer had been thinking about moving to New York City. Great stories had drifted out to Cincinnati about the thriving, bustling activity of the nation's busiest sea port. As the business grew, Solon Palmer used more and more imported oils and he felt he could give his customers better service if he could eliminate the long overland freight trip. Eventually, in 1871, he made the final decision, leased a building at No. 12 Platt Street, and moved the business East.

Extensive advertising of his products in the fashionable journals read by the ladies in those days further established Solon Palmer's reputation as a leading perfumer. Powder was used openly. Palmer's Lotion was more popu-

Top: These perfumed cards were distributed in the late 1800's. Center: Solon Palmer's quarters at No. 8 West Fourth Street. Bottom: Solon M. Palmer, Lubin Palmer, and Solon Palmer compare some of the products offered by Solon Palmer today with those offered during the last 100 years. Mr. Lubin Palmer is president of the company; Solon Palmer is treasurer and perfumer; and Solon M. Palmer is secretary and sales manager

lar than ever and with every bottle the customer received a "Pocket Guide and Calls for Square Dances."

The United States was one hundred years old in the year 1876, and in celebration she gave the great birthday party known as the Centennial Exhibition in Philadelphia's Fairmount Park. Among the visitors were Solon Palmer and his young son, Eddy, who had been working with him for nearly a year. Upon their return, they brought back the finest and most modern soap manufacturing equipment, made especially for the Fair by the biggest manufacturer in France. Within two years druggists were featuring over 30 kinds of soap, scented with Palmer perfumes. To our current merchandising methods it seems strange, but at that time women brought their own perfume bottles to be filled from the druggist's bulk containers.

About this time rouge was beginning to be used with a certain amount of discretion. Solon Palmer quickly read the signs and offered his Balm of Roses. The most popular of his wares, however, other than perfumes, were hair preparations. Self-respecting men appeared in public only after generously applying hair grease. A company advertisement hit the correct note when it said, "no king could be crowned without being anointed."

By 1879 the firm had again outgrown its quarters and another move was made, this time to 376 Pearl Street. The building was taken over in its entirety. The new location was almost in the shadow of the Brooklyn Bridge, and Solon Palmer was comfortably settled in time to celebrate the Bridge Opening Ceremonies with a party held on the roof.

Fairs were the order of the day, and Solon Palmer exhibited in many of them. In 1884 New Orleans had an especially colorful fair known as the "World Industrial and Cotton Centennial." One of the sensations of the fair was Solon Palmer's Fountain of Perfume where ladies could gather to dabble their handkerchiefs in the fragrance.

It was in 1892 that Solon Palmer decided to take his son Eddy into partnership. The business was by that time one of the largest of its kind in the world.

In 1903, the elder Solon Palmer died after 56 years of active management of the House of Palmer. His business had grown with the country, to become a truly important factor in our conception of gracious living. A few years later, Eddy Palmer took his two sons into the business; Lubin in 1906 and Solon in 1912. Eddy Palmer died in 1934, and in the same year Solon Maxfield Palmer, son of Lubin and great grandson of the founder of the House of Palmer, entered the firm.

Once more, growth has dictated a new location for the firm. Last month Solon Palmer found it advisable to move to new quarters. The firm is now located at 39 Division Street, Newark, N. J.

With each new forward step in the last hundred years of American history, the House of Palmer has suited the mood of the nation with new perfumes (over one hundred have been created to date) and toiletries. Today, Palmer's Ascot Toiletries for men and Palmer's Brocade, Lavender and Dress Parade for women, together with their complimenting soaps, colognes and powders, are carrying on the Palmer tradition of excellence.

Top: Floral Toilet Water packages of the 1880's and 1890's. Center: Liquid powder and cake make-up of 75 years ago. Bottom: These dispensing bottles were familiar in 1887

Bermuda Flower Oils

by Dr. J. J. Martinat

In approaching this subject I am well aware that my friends in the trade and especially my French friends, long experienced in the cultivation and extraction of the "Plantes a Parfums," might feel that "Bermuda is not a place where an essential oil industry could really be established; it is a fancy; Bermuda is too small anyway to be able to even mark a passing stage in this industry—moreover, so much inherited knowledge and experience are required."

This is not written to challenge anyone; it is with a feeling of modesty, and I wish to pay a sincere tribute to the French who have established and maintained unchallenged for so long this splendid industry in the Southern region of France, with Grasse as the capital of floral oil industry. There are two main reasons for that; the situation of the Grasse region in relation to the rest of the world certainly offers unparalleled advantages and the skillful art of the French minds concentrated there for so long with such lofty sentiments of pride, have made it an achievement short of marvelous.

Aside from that, the French themselves have tried, and succeeded in many instances, to extend the production of flower oil products in other parts of the Mediterranean littoral. To be fair, it must be said that they also have attempted it in this part of the world and the first knowledge and equipment brought to Bermuda were supplied by one of the most important houses of Grasse. Yet, I am sure that they have not really believed in the possibility of successfully carrying on, in this hemisphere, in a commercial way the cultivation of the more essential perfume flowers and the extraction of their true odoriferous principles with the highly technical equipment and the scientific skill that are required.

However, this was started by the far-sighted and industrious people of Bermuda. After difficult experiences over long periods of time and after having passed through vicissitudes inherent in this particular business especially to newcomers, success is coming to them. One of the most important obstacles was the stationing of the large Allied forces there during the war which brought operations of the factory to a complete standstill. All these obstacles, however, have not deterred this pioneer work and now that the preliminary stage of experiments has passed, activity has been completely resumed and an essential oil business is now being established on a permanent, progressive business basis.

In Bermuda there are being cultivated and extracted flower oils which may well measure up to the best produced anywhere. One, so far unknown in France, is Easter lily absolute oil. Others, although bearing the same names, differ much as to their true character. For instance, jonquille, jasmin, and gardenia are unique in their top note odor. For that reason those absolutes from flowers will not be in direct competition with French products. They are different and will have a different appeal to the manufacturers of finished perfumes. It is well known that many factors influence the characteristic odor of flowers: the nature of the soil with the kind of fertilizer used, the intensity of the sun's rays; the wind and the climatic and atmospheric conditions prevailing in any particular part of the world.

It is my belief that with the scientific progress that could be applied in the treatment of the flowers and plants that already grow in Bermuda or of those that could be imported and cultivated in this part of the world, new and very interesting developments in the art of obtaining natural expensive basic materials will be established and perfected.

Oil of Citronella

The U. S. Agricultural Attache in Guatemala has been receiving a surprisingly large number of inquiries as to sources of citronella planting stock, and requests for information on cultural and processing methods. Citronella acreage is expanding, and many new growers are entering the field. Heretofore expansions in acreage has been rendered difficult by the scarcity of planting materials. Some foresighted individuals have planted fields for the sole purpose of selling citronella planting stock at rather high prices.

The National School of Agriculture in Guatemala recently presented a short course in agriculture for 120 small farmers. It is possible that through such efforts the cultivation of essential oil-bearing plants might be expanded. Citronella and lemon grass could be developed by small-scale producers for cash and soil-erosion purposes.

Agricultural research is being carried on in Guatemala both by private and foreign agencies.

Ceylon's exports of citronella oil during the first quarter of 1947 increased to 314,330 pounds valued at 1,794,614 rupees, as compared with 193,840 pounds valued at 1,717,544 rupees in the preceding quarter.

Imports of citronella oil into the United Kingdom from Ceylon during the first quarter of 1947 declined to 41,769 pounds valued at 239,711 rupees as compared with 80,129 pounds valued at 964,817 rupees in the preceding quarter.

Exports of citronella from Ceylon to the United States and British India in the March quarter of 1947 showed the largest increases, whereas exports to the United Kingdom were reduced to approximately one-half of the total in the preceding quarter. Private British firms reportedly were opposed to the high prices formerly paid for the oil by the Ministry of Food.—*Foreign Commerce.*

Book Review

INTERNATIONAL WORLD WHO'S WHO, G. G. Sampson, Editor. 1176 pages, 6 x 9 inches, cloth covers. American Universities Medical Research Publications, Inc., 1947, price $18.50.

Over 8700 concise biographies of leaders in industry, finance, science, the professions, etc., are given in the first United States edition of this work. The work has been brought up to date and achievement in various fields of endeavor was the sole criterion for each listing the publishers emphasize. The volume makes a handy and useful reference work. The publishers also recently published International Who's Who in World Medicine, a volume of 750 pages listing 6500 names and brief biographies.

Short Adages

by R. O'MATTICK

"Hi-Ya—Mudder!"

WE had heard some time ago that Dr. Rowmateral, in addition to his long list of attainments as a master-perfumer, chemist, inventor, explorer and whatnot, is an accomplished musician, playing the piano, flute, oboe and bassoon. But we were totally unaware of his fine voice until we dropped into his laboratory the other day and heard him sing. He had just perfected a remarkable process for producing a vapor with a wonderful perfume but unfortunately has not found any method for making it lasting. This did not seem at all to discourage him, as almost nothing does, and there he was singing merrily all three parts at once of an old English round:

"Man's life's a vapor full of woes
He cuts a caper and down he goes
Down, down, down he goes, etc."

* * *

Our-own-private-market report Department: Reports recently received that firms who are still in business and minding their own business are selling perfumes, toilet-water, cosmetics, here and there, though not to the extent they did a year or so ago. They do not see the end of the world in sight and know that many people still feel the same way. Also, Christmas will be here on December 25 and many of our friends are making plans to make up packages for the Holiday Season. Once in a while somebody runs short of some material and the telephone's bell tingle is the preliminary signal for an order instead of a complaint or a tale of woe.

* * *

We don't like Boosters who just boost and boost without rhyme or reason but perpetual pessimists are even a worse tribe. Statistics at best can be misleading and quite often are a meaningless jumble of figures and meaningless curves that go up and down and around, sometimes in smooth curves which show rough going and othertimes in jagged peaks and breaks that look like the mountain scenery in one of those mystery movies. But what are the signposts for the rest of this turbulent year of 1947? One is the Fifth Annual Chicago Toilet Goods Show which will be held at the Palmer House from September 7 to September 13. Advance reports, unadorned by booster or statistics, indicate that it will be an excellent show, full of vigor and ideas and activities. Sand L. Wood and Pat Chouli have already made every kind of reservation imaginable for this event, including their favorite corner *spot* at the famous Bar of the Palmer House.

* * *

Another signpost is the Nineteenth Annual Toiletries Show which will be held at the Parker House in Boston from August 11 to 20. This also promises to be an exciting event and Sand L. Wood and Pat Chouli have already made every reservation imaginable, including their favorite corner spot at the famous Bar of the Parker House. There will be shows in other parts of the country and there will be orders and business and reorders and as long as women like perfumes and toilet-waters and use lipsticks and creams and deodorants and all those other products that our readers make, buy, sell, distribute, export, import and think up and design, Pat Chouli and Sand L. Wood and thousands of their cronies, friends, competitors, enemies, customers and helpers will always have enough for a drink.

* * *

And since this Journal is rightfully and officially called THE AMERICAN PERFUMER AND ESSENTIAL OIL REVIEW let us not forget about the Essential Oils and Aromatics that go into the flavoring channels. People are still eating candy and cake and drinking soft drinks and cordials. Ice Cream and Pickles and Pies and Sauces are still in existence! Sooner or later the phone will ring, too, for the fellows that are waiting for orders in this direction! We will not attempt to list all the Candy Shows and Confectioners' Conventions and Food Shows that are to take place from now to the end of the year. There are too many to enumerate. But Sand L. Wood and Pat Chouli have decided to attend as many of them as they possibly can without trying to be in New Orleans and in St. Louis at one and the same time. For one thing, they have already reserved their favorite corner at their favorite bar in Atlantic City for the American Bottlers of Carbonated Beverages Convention and Exposition in November—the first such event to be held in six long years.

* * *

Yes sir, with all these conventions and shows and expositions coming, business will be done, if by no one else at least by the hotels! And some of this money spent is bound to trickle, we hope, back to the purses of our readers because a hotel which gets all that gold as the result of a show or a convention is bound to increase its quarterly dividends and as a result the stockholders will buy their wives and daughters and girl friends at least one extra bottle of perfume or cologne and perhaps a lipstick or compact thrown in for good measure.

DOES Perfumery BELONG IN A Classroom

A true knowledge of the nomenclature of our industry and business relations dealing with these materials could be taught in the classroom

EDWARD SAGARIN*

FOR many years, at Columbia University College of Pharmacy, there has been a course in perfumery and perfume materials, under the direction of Dr. Curt P. Wimmer.

During these years, the course attracted considerable attention. From almost every essential oil and aromatic chemical company in and around New York, one or more persons attended the course and, likewise, many students came from the makers of the best-known finished perfumes.

Dr. Wimmer having recently become professor emeritus, and having retired from all active teaching duties, the writer was invited to take over this course. This change brings forward the question of the value of formal college education in such a subject as perfumery, which in the last analysis is an art acquired through many years of painstaking work.

CAN PERFUMERY BE TAUGHT?

"Can perfumery be taught?" Our experience would indicate that there is a vast storehouse of knowledge, invaluable to anyone who deals with the raw materials of perfumery or with the final product, and that this information can be systematized for the benefit of the student and ultimately of the industry. We say *the industry*, because by and large it will prove valuable to the entire field to have additional knowledge at the fingertips of those who today may be buying or selling these products, and tomorrow will be the industry's leaders.

The information that is given to these students at Columbia University—and to our knowledge, it is the only course of its type in the United States—is all to be found in the standard textbooks and in various magazine articles. There is none of it, we dare say, that the studious young worker could not dig out for himself, whether it be from the books of Gildemeister, Poucher, Pary, or Naves, to mention only a few of the most helpful, or from the dusty shelves of a French perfumery journal of a generation ago.

Under these circumstances, why give a course in the subject? What special value is the classroom, if the books which are in the libraries of most of the firms of the industry contain the information that is to be transmitted to the student?

The course in perfumery plays the rôle of finding this material from its many different sources—sources that are scattered, hidden, frequently untranslated, and always surrounded by a tremendous amount of other information which could only serve to confuse and bewilder the beginner.

But the rôle of the university is more than that. Here the material is arranged in a systematic fashion, and presented in a manner that no one book has done. Finally, the student in perfumery has the same advantage over his colleague who would learn from a book only, that is attained by a student in any other subject, in that the language of the classroom, the exchange of questions, and the simplicity of explanations, all facilitate a ready absorption of the knowledge.

RAW MATERIALS OF PERFUMERY

What knowledge is it that the students are obtaining? Our aim, for one thing, is to acquaint them with the raw materials of perfumery—what they are, where they come from, how they are produced, how they differ from each other. This does not mean that we state: "The specific gravity of oil of citronella Java is from 0.885 to 0.901 at 15 deg. C., and its optical rotation is up to —4 deg."

Such detailed information can hardly be remembered, would have little meaning in relationship to the data being offered, and would be readily available in any number of textbooks and handbooks.

Let us examine, on the other hand, what our aim has been, in the lectures on essential oils, to take one example. We are interested in a close examination of the definitions that have been offered of an essential oil; a study of the derivation and usefulness of such synonyms as *volatile oils* and *ethereal oils;* and a differentiation between essential oils and flower oils.

Then, having learned what essential oils are, we proceed to the purposes of the oil in plant life, to the distribution of the oil in the parts of the plant, and the internal and external conditions that affect the quality and quantity of a given oil. Finally, we examine the frequently encountered chemical constituents of large numbers of essential oils, explain the complex mixture that any one essential oil must be, and go into a simple explanation of terpenes and oxygenated terpenes, their relation to isoprene, and their importance in the field of perfumery.

When, in a similar way, we examine synthetic aromatic chemicals, balsams and resins, animal fixatives, and discuss the major methods of essential oil and flower oil production—distillation, enfleurage, maceration, volatile solvent extraction and expression—then we have armed the

* Givaudan-Delawanna, Inc.

student with the beginnings of a working knowledge of the history, culture and technological background of his industry.

It is in this way that one can truly understand the meaning of the nomenclature of our industry, and be better equipped in all business relationships.

OLFACTORY MEMORY, RECOGNITION AND ANALYSIS

While this is taking place in the lecture room, there is a systematization in the training of olfactory memory, olfactory recognition, and olfactory analysis. The laboratory work starts with a simple distribution of samples of a few common perfume and flavor ingredients, and each ingredient is discussed as it is distributed and smelled.

Week by week, as new perfume raw material samples are distributed, there are tests in the recognition of the odors that the students have had before. Finally, mixtures are prepared, at first containing only two ingredients in equal proportion, and they are studied in an effort to recognize the individual ingredients in such mixtures.

In this manner, the student is not only being trained to recognize individual ingredients as they come off the blotter in a mixture, but there is a sharp observation of the change that takes place when such mixtures are made. Two pleasant and rather attractive raw materials can blend together in a harsh and unattractive fashion, just as surely as the opposite takes place.

As time goes on, our mixtures become more complex, several ingredients are added, some of them in only small quantities. The trainee then proceeds not only to discuss the mixture, but to attempt a duplication.

This training, likewise, it cannot be denied, is obtainable in any laboratory of any house in our industry, but the classroom offers it a systematization and a discipline that is difficult to impose upon oneself.

Finished perfumers will not come forth out of this classroom, but we are confident that there will be men and women equipped with a knowledge of their industry and of the materials it buys, makes, uses and sells, and with the beginnings of a familiarity in their odors.

Technical Abstracts from Scientific Literature

Perfumes of the phenolic type. *Perfumery Essential Oil Record*, **34** *(1943), 307.* In a British patent specification the gradual maturing by the carbon dioxide of the air of phenolic type perfumes in soaps is claimed. The odor of face powder by similar odoriferous substances may, it is added, be released as the carbon dioxide in a crowded room increases. (Through *J.A.Ph.A.*, **33**, *245, 1944.*)

Perspiration Inhibiting Composition. *U. S. 2,236,387.* Perspiration inhibiting composition comprising a nontoxic water soluble protein coagulating metallic salt of a strong acid and a neutral water soluble amino compound taken from the group consisting of the aliphatic amides and the aliphatic amino acids and having at least one intact, reactive amino group.

Preliminary observations on the healing properties of vitamin F (linoleic and linolenic acids) in cutaneous lesions. Fonseca Ribeiro and Laerte M. Guimaraes. *Rev. faculdade med. vet., Univ. Sao Paulo (Brasil* **2**, *No. 2, 41-3, 1942.)* The ethyl esters of linoleic and linolenic acids mixed either with zinc oxide and talcum, or in equal proportions with a tincture of benzoin, stimulate wound healing and scar-tissue formation in cutaneous lesions. (Through *C. A.* **38**, *4983, 1944.*)

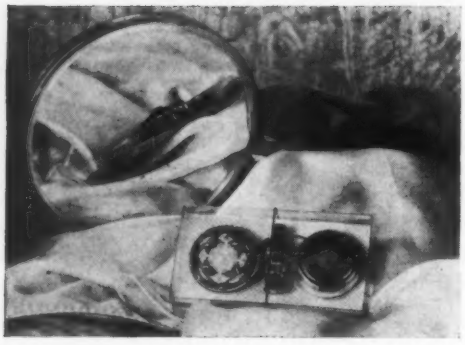
Mange Remedy. *Canadian 397,591.* Mange remedy comprising an aqueous emulsion the dispersed phase of which contains tetraethyl thiuram monosulfide dissolved in a vegetable oil in proportions of substantially 1:1 and the emulsifying agent of which is solubilized casein in an amount sufficient to produce stable emulsion, said emulsion containing as a wetting agent a salt of a sulfate of a higher aliphatic alcohol containing more than seven carbon atoms and water so proportioned that when the emulsion is applied to a hairy portion of an animal it freely penetrates to the skin without depositing excessive and undesirable amounts of oil on the hair.

Extraction of unsaponifiable matters from dry-saponified wool grease soap. *British 553,322.* For the purpose of facilitating the efficient extraction of unsaponifiable matters from dry-saponified wool grease soap, produced according to the process described in *British 470,715* (*C. A.*, **32**, *1506*), the soap in its molten state, at about 500 deg. F., is spread in a thin sheet formation and rapidly cooled so that it is rendered tough and plastic at a temperature of about 200 deg. F. The product so formed is then milled.

Quantitative Determination of Mixtures of Methyl Vinyl Ketone and Diacetyl. A Dropping Mercury Electrode Method. Ellis I. Fulmer, John J. Kolfenbach and L. A. Underkofler. Chemistry Department, Iowa State College, Ames, Iowa. *Ind. & Eng. Chem. Anal. Ed.*, **16**, *469, 1944.* A dropping mercury electrode method has been described for determination of methyl vinyl ketone alone and in mixtures with methyl vinyl carbinol and methyl ethyl ketone and diacetyl alone and in mixtures with methyl vinyl ketone and methyl ethyl ketone.

Natural antioxidants. C. R. Thompson and H. Steenbock. *Arch. Biochem.* **4**, *15-23, 1944.* The manometric method was used in a study of the oxygen uptake with soybean oil, cottonseed oil, lard and oleo oil. Removal of the naturally occurring Antioxidants in the oils by adsorption on activated alumina reduced the induction period from about 100 hours to 9,19,40, and 50 respectively. Addition of 2 to 4 gramma of alpha-tocopherol to the alumina-treated oils increased the induction periods to 50 and 100 hours, respectively, with the plant and animal fats. Addition of beta-carotene to the alumina-treated fats shortened the induction periods and increased the rate of oxygen uptake. Alpha-tocopherol counteracted the effect of beta-carotene. Ethyl oleate when treated in the manner indicated, behaved like the animal fats, ethyl linoleate behaved like the plant fats. C. R. Thompson and H. Steenbock. (Through *Soap*, **21**, *No. 1 57, 1944.*)

Packaging Portfolio



COTY

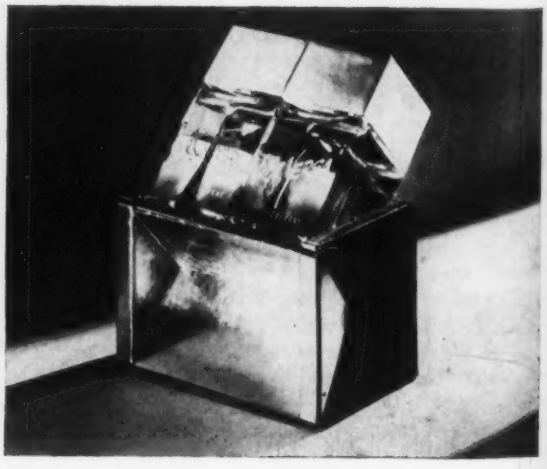
COTY: Coty "Summer Shades" is presented in an attractive new plastic package which includes "Airspun" powder, and harmonizing dry rouge and lipstick in a handy plastic tandem clip.

MARK CROSS: Mark Cross' line of men's products, Cross Country, is attractively packaged in simply designed bottles, with black plastic caps. The labels of each of the four preparations are of a different color. The background for all labels is gray, with gold embossed borders and black lettering.

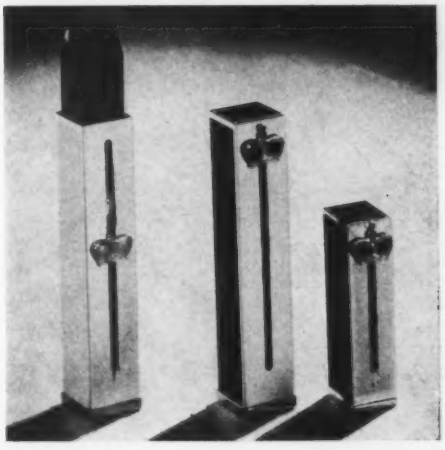
MARK CROSS

VICTORIA: Packaged in black and gold boxes and wrapped in brilliant cerise and black, or lime and black stripes, the smart new duo holds a bottle of each, Et Cetera and Vice Versa cologne.

VICTORIA



PRINCE MATCHABELLI



PRINCE MATCHABELLI: Prince Matchabelli presents the "Queen Size" automatic lipstick of black or aqua enamel. Just a down-slide of the gilt crown readies the lipstick for application

TUSSY: Tussy's Tahmina Perfume is packaged in stately bottles nestled in gay colored satin. It is presented in shining silver, embossed with tiny figures of turquoise and coral

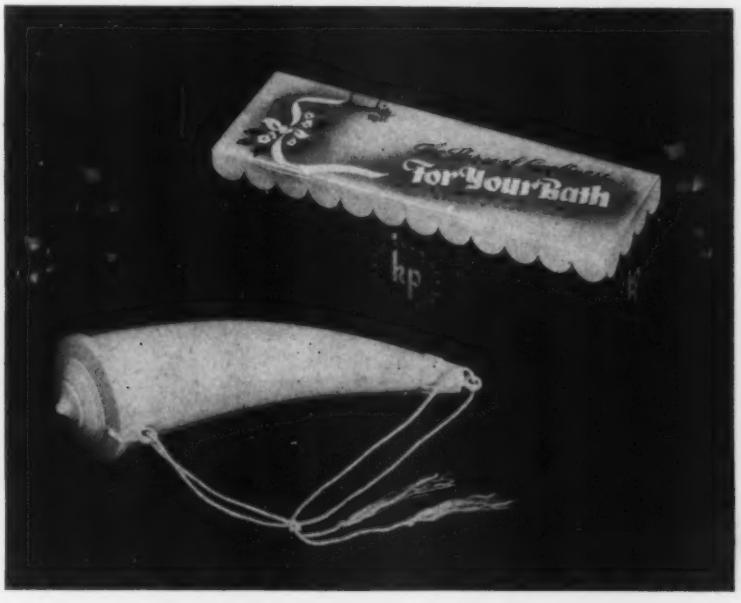
KEMPTON PAINE: A new plastic container filled with Anacachio Mist Bubble Bath is introduced by Kempton Paine. "The Horn of Loveliness" is individually gift-boxed and color selections include pastel shades of coral, ivory and green.

CIRO: Four fragrances of Ciro's toilet water are now presented in bottles with a new twist. The molten glass bottles have twisted caps to complete the theme.

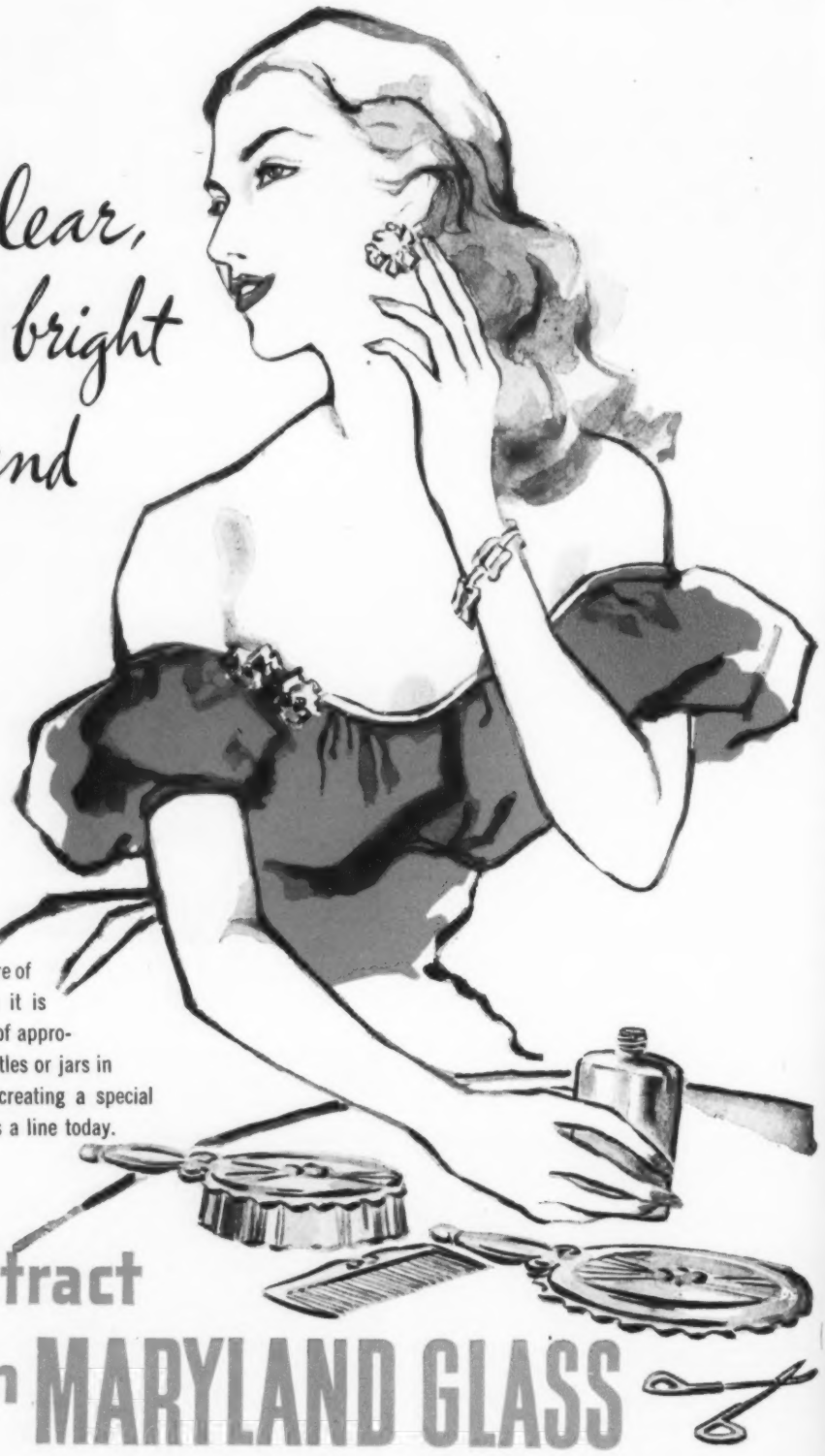
TUSSY

KEMPTON PAINE

CIRO



Crystal clear, sparkling bright Maryland Glass...



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FLAVORS

Aromatic and Terpene Acetates

These substances are often used to give floral notes to and act as modifiers of many flavor compositions

MORRIS B. JACOBS, Ph.D.*

MENTION was made in a previous article to the grouping of the acetate esters into aliphatic, aromatic, and terpene acetates. The aliphatic acetates and cyclohexyl acetate were described in that article and it was pointed out that they are often used as major components, if the volume or weight they comprise in a formulation is taken into consideration. The role that the aromatic and terpene acetates play is different, for while they are seldom used in bulk in flavor compositions, nevertheless they form an important part in the formulations in which they are used.

AROMATIC ACETATES

The aromatic acetates are powerful flavoring and perfume materials. In general, for flavor use they are used as modifiers and they must be used sparingly.

Benzyl acetate, $CH_3COOCH_2C_6H_5$, is a colorless liquid of high volatility. It has a flavor resembling apple and pear, a bitter, burning taste, and a marked jasmine-like odor. It boils at about 215 deg. C., has a density of 1.057-1.061, and has a refractive index of 1.5232. This ester is miscible with alcohol and is practically insoluble in water. One volume is soluble in an equal volume of 80 per cent alcohol. Benzyl acetate is one of the most widely used synthetic components of jasmine perfumes. It is also used in other floral compositions such as gardenia, hyacinth, lilac, and lily of the valley. It is a fairly common component of flavors and among those in which it is used are apple, apricot, plum, quince, and particularly berry flavors.

Tolyl acetate, $CH_3COOC_6H_4CH_3$, is a colorless to pale yellow liquid which boils at about 210 deg. C. and has a specific gravity of 1.052-1.055. It is very soluble in 95, 90, and 80 per cent alcohol, and is insoluble in water. This ester has a heavy odor and somewhat sweet taste with a flavor resembling honey. While it is used in perfumes as a modifier in lilac and jasmine perfume its use in flavors is limited principally to honey-type formulations.

Styrallyl acetate, $CH_3COOCH(CH_3)C_6H_5$, also known under the names of Gardeniol, gardenia ester, and methyl phenyl carbinyl acetate, is a colorless volatile liquid, which boils at about 214-217 deg. C., and has a density of 1.03-1.05. This ester has an astringent, bitter taste, a plum flavor, and as one would gather from its synonyms, a sharp, powerful gardenia odor. It is very soluble in 95, 90, and 80 per cent alcohol and is insoluble in water. It has found some use for blending in a number of flavors such as apple, apricot, plum, and berry flavors. In perfumery it is used mainly in gardenia and lily of the valley compositions but is used as a modifier in many floral-type perfumes.

Phenethyl acetate, $CH_3COOCH_2CH_2C_6H_5$, possibly more commonly known as β-phenylethyl acetate and sometimes as benzyl carbinyl acetate, is a colorless, volatile liquid which boils at about 232 deg. C., and has a specific gravity of 1.037-1.038. This ester has a pronounced fruity

*Adjunct Professor of Chemical Engineering, Polytechnic Institute of Brooklyn.

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odor resembling peach and apricot with a green, rose-like note. It has in common with other phenethyl compounds a honey flavor, and its taste is somewhat sweet and insipid. As one would gather from its odor, this compound is useful in peach flavors, particularly in combination with ethyl methylphenylglycidate, so-called Aldehyde C_{16} and is preferred over methyl heptine carbonate for this purpose. It is very soluble in 95, 90, and 80 per cent alcohol and is insoluble in water. In addition to peach, apricot, and honey flavors, phenethyl acetate has been suggested for apple, orange and strawberry compositions but in all formulations, it must be used sparingly. The principal perfumes in which it is employed as a general modifier are hyacinth, rose, jasmine, and other floral compositions.

Dimethyl phenethyl carbinyl acetate, $CH_3COOC(CH_3)_2CH_2CH_2C_6H_5$, phenylethyl dimethyl carbinyl acetate is a liquid which boils at 222 deg. C. and has a density of 0.983. It has a strawberry flavor, a bitter taste and a jasmine odor. It has been recommended in small amounts for incorporation into berry flavor formulations.

Hydrocinnamyl acetate, $CH_3COOCH_2CH_2CH_2C_6H_5$, or phenylpropyl acetate as it is very commonly called, is a liquid boiling at 244-245 deg. C. having a specific gravity of 1.019. This ester has a flowery odor resembling mignonette which is also akin to the odor of linalyl acetate. It has a gooseberry flavor and a bitter-sweet taste. This ester is very soluble in 95 per cent alcohol; it is soluble in 70 per cent alcohol in the ratio 1:2 and it is insoluble in water. It has been used principally for berry flavors.

Cinnamyl acetate, $CH_3COOCH_2CH{:}CHC_6H_5$, or styryl acetate is a liquid boiling at 262 deg. C. and having a specific gravity of 1.048-1.056. It has an odor with a hyacinth-like note and is also of a fruity character. This ester has a pineapple flavor and a sweetish taste. Cinnamyl acetate is very soluble in 95 per cent alcohol; one volume of the ester is soluble in an equal volume of 80 per cent alcohol; and it is insoluble in water. It probably can be used in fruit flavors of the apple, apricot, peach, and pineapple group.

TERPENE ACETATES

The terpene acetates are used in flavoring formulations to give the preparations a floral note. They have found much greater use in perfumery than in flavors but their use for the latter is not to be minimized. They must be used very sparingly, otherwise their presence will overwhelm, the flavor note desired.

Geranyl acetate, $CH_3COOC_{10}H_{17}$ is a colorless, volatile liquid which boils about 242 deg. C., has a density of 0.914-0.918, and a refractive index of 1.462-1.464. It has a fragrant odor resembling linalyl acetate with a fruity note. It has a gooseberry aroma and an insipid taste. The ester is very soluble in 95 and 90 per cent alcohol but is almost insoluble in water. Geranyl acetate has relatively wide application in flavor compositions in both fruit types like apple, apricot, banana, and peach; and in berry types like currant, gooseberry, and raspberry. In perfumes it is mainly used in lavender, jasmine, and rose but can be employed for other floral perfumes.

Linalyl acetate, $CH_3COOC_{10}H_{17}$, is a colorless, volatile liquid, which boils at 220 deg. C., has a specific gravity of 0.900-0.913, and a refractive index of 1.4460. It is very soluble in 95, 90, and 80 per cent alcohol and is almost insoluble in water. Linalyl acetate has a bergamot odor, a gooseberry flavor, and a tart, sweet taste. This ester has been recommended for blending in formulations like gooseberry, pear, and peach. It is used mainly in perfumery blending well with gardenia, jasmine, and syringea but is also used in many floral and oriental type compositions and in eau de Cologne.

Rhodinyl acetate is a liquid which boils at 110-120 deg. C. under reduced pressure of 10 mm. Hg; it has a specific gravity of 0.878-0-900. This mixture has a raspberry flavor, a bitter taste and an agreeable fruity odor. It is very soluble in alcohol. This ester, too, has its main employment in perfumery, nevertheless it has found use in berry flavors, principally strawberry and raspberry.

Citronellyl acetate, $CH_3COOC_{10}H_{19}$, is a colorless to pale yellow, volatile liquid which boils at about 240 deg. C, has a specific gravity of 0.892-0.902, and a refractive index of 1.445-1.449. This ester has a fruity and flowery odor resembling bergamot pear and lavender. It has an apricot flavor and a sweetish taste. It is very soluble in 95 and 90 per cent alcohol and is insoluble in water. Among the flavors for which it has been suggested are apricot, pear, and quince; among the perfumes, it is used mainly in wild rose types.

Neryl acetate, $CH_3COOC_{10}H_{17}$, is a colorless to pale yellow volatile liquid which boils under reduced pressure at 134 deg. C. and has a specific gravity of 1.20. The ester has a floral odor resembling bergamot and orange blossom, a raspberry aroma, and a tart sweet taste. It is soluble in alcohol and insoluble in water. Neryl acetate has found some application in raspberry flavors and in perfumery is used in artificial jasmine and neroli oils.

Terpinyl acetate, $CH_3COOC_{10}H_{17}$, is a colorless liquid of medium volatility. It boils in the range of 220-225 deg. C., has a specific gravity of 0.989-0.993, an optical rotation of of 1.464-1.465. The ester is very soluble in 95, 90, and 80 per cent alcohol and is insoluble in water. Terpinyl acetate has a marked bergamot and lavender odor, an almond flavor, and a sweet taste. In flavors it is used mainly for shading purposes in such types as almond, apricot, cherry, and plum; in perfumery it is used as a modifier in eau de Cologne and lavender types.

Bornyl acetate, $CH_3COOC_{10}H_{17}$, is a colorless, crystalline solid with a low melting point of 28-29 deg. C. The liquid boils at about 223-226 deg. C., is relatively volatile, has a specific gravity of 0.989-0.993, an optical rotation of -39 to -37 deg., and a refractive index of 1.4655 to 1.4665. It is very soluble in 95, 90, and 80 per cent alcohol and is insoluble in water. Bornyl acetate has a characteristic pine needle odor and as a flavor is used mainly in medicinal preparations.

Isobornyl acetate, $CH_3COOC_{10}H_{17}$, is a colorless liquid which boils at about 225 deg. C. It is very soluble in 95, 90, and 80 per cent alcohol and is insoluble in water. This ester also has a characteristic pine needle odor and is used in preparations analogous to those in which its isomer is employed.

Menthyl acetate, $CH_3COOC_{10}H_{19}$, is a colorless liquid which boils at 227-228 deg. C., has a specific gravity of 0.919-0.929, a refractive index of 1.4468, and an optical rotation of -79.4 deg. It is very soluble in alcohol and is slightly soluble in water. This ester has a peppermint-caraway aroma, a peppermint odor, and a bitter-sweet

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taste. Menthyl acetate has been employed in artificial peppermint and caraway oils and flavors.

Santalyl acetate, $CH_3COOC_{15}H_{23}$, is a liquid which boils in the range 308-317 deg. C. and has a density of 0.888-0.990. It has an apricot flavor, a bitter-sweet taste, and a sandalwood odor with a fruity note. Santalyl acetate has been suggested for incorporation in apricot, pineapple, and peach formulations for shading purposes.

Guaiyl acetate, $CH_3COOC_{15}H_{25}$ is a colorless liquid with a density of 0.988. It has a current aroma, a tart sweet taste, and a tea rose odor. The ester is very soluble in 95, 90, and 80 per cent alcohol and is insoluble in water. It has also been sugested for shading apricot, currant, pineapple, and raspberry flavors.

Flavored Notes

From time to time I have stressed the need of uniform nomenclature for flavor components. A point in order was raised by a reader concerning the naming of isoamyl compounds. Many are called amyl compounds. The same is true of the isovalerates; many of these are simply termed valerates. The difficulty arises with the isopropyl and isobutyl compounds. These are not the same as the *n*-butyl *and* *n*-propyl isomeric compounds.

* * *

A query was received concerning a supplier of diketone compounds used for butter flavors. Some firms supplying diacetyl also supply the diketone homologues of this substance.

* * *

Occasionally queries are received concerning suppliers of various flavor compounds not commonly listed in commercial catalogues but which are given in flavor formulations found in the literature. Who makes or can supply:

1, 2, 4-trimethoxy-5-propenylbenzene (Asaron)
Tetrahydrogeraniol
Farnesol
Anisyl formate
Butyl naphthyl ether

* * *

If you have a flavor component you would like to have listed, let us know.—*M. B. J.*

Dominica's Vanilla Industry

During the past five years the vanilla industry has become important in Dominica (Windward Islands) and the Dominica Vanilla Growers Association, in its annual report for 1946, looks forward to increasing output and continuing good prices in the United States market. The price paid locally in May for this commodity was BWI $1 per pound. (BWI $1.18 = US$1.) It is expected that the 1947 output will be equal to that of 1946.

Dominica's exports of vanilla in 1946 to the end of May amounted to 34,588 pounds, valued at BWI $241,690, compared with 53,239 pounds, valued at BWI $352,545 in the corresponding period of 1945. Exports in 1944 totaled 50,833 pounds, valued at BWI $328,315 and, in 1943, 28,206 pounds, valued at BWI $190,628.—*Foreign Commerce.*

Book Review

SYNTHETIC FOOD ADJUNCTS, by Morris B. Jacobs. 325 pages, illustrated and indexed, 6 x 9 inches. D. Van Nostrand Co., 1946, price $5.50.

If not the first, this book is *one* of the first on the subject of flavors published in this country. Quoting from the author's preface "Though many color and flavor compositions are detailed in this text, it is not intended that this book be used as a formulary," describes it best. Yet in spite of the author's avowed intentions, this book can and will be used as a formulary . . . at least as an experimental formulary . . . a basis for further development.

The book is divided into 12 parts starting with an *introduction* to foods and food adjuncts, going through to the vitamins in the last chapter. From the flavoring point of view, an unusually important part of the book is the *appendix* starting on page 289 through 321 wherein many formulas for different kinds of flavors are suggested.

The chapters are well handled. A valuable inclusion is the taste sensation of countless chemical compounds where the odor and taste are not always identical. It is this basic type of data that is so lacking in the flavoring industry. In another chapter, the author shows how to form a "neutral ester mixture base" from four different compounds. This *ester mixture* serves as a diluent or as a supplement. Thus by adding ethyl butyrate to it, an apricot ester mixture is formed, and so on. That is basic information and therefore most valuable. It is probably known to old timers in the flavor industry, but it is not common knowledge.

It would be impossible to expect to find mentioned the countless organic chemicals of potential or actual flavor value. The only one this reviewer did not see mentioned was cinnamyl anthranilate, valuable in certain places where a grape flavor is desired. Admittedly, this item is not an article of commerce.

No doubt, the author will expand the section showing the solubility of flavoring compounds in propylene glycol, considerable data on which was recently published in THE AMERICAN PERFUMER and elsewhere.

There is a question in this reviewer's mind regarding the propriety of including the chapters on preservatives and stabilizers as well as the one on vitamins. While the subjects bear on the title of "Synthetic Food Adjuncts," they seem out of place when considered with the excellent data on flavoring and its uses. Instead, the author might substitute chapters showing how the flavor formulas would vary when the compound is intended for use say in ice cream, hard candy, creams and foodstuffs.

These personal observations are not intended to mean or imply that the book is not well done. No sir! It is one of the best on the subject if not the best because the author starts with fundamentals and builds up from there. His professional and academic background have taught the author that people want to know "why" such and so is done, and once taught *why*, they can then go on their own.

So, if you are in the food or flavor business, you can't afford to be without this book. It deals with the theory of taste and flavor, then follows up with data on the properties of the individual synthetic ingredients used in flavoring and methods of combining them together.

The book is clearly printed, carefully proof-read and well bound.—*M. G. deN.*

Odor in Flavor

The usefulness of a system of analysis and classification of flavor odors is presented by the author

E. C. CROCKER*

FLAVORING materials are used to produce subjective effects: stimulation of the senses of taste and smell, and also to some extent, that of feeling. The most difficult sensations to describe are those of odor, yet these are of the greatest practical importance. Up to the present, there has been no description of odors except in terms of other odors. Effective work with this arrangement presupposes a wide experience and a fine odor memory. This is an opportunity to point out the usefulness of a system of odor analysis and classification.

FLAVOR ODORS

The odor part of a flavor may be readily observable, as with fruity or spicy flavors, vanilla, coffee, or freshly-popped corn. Not all flavor odors are that aggressive, however, but still they contribute in useful degree to the pleasure of eating. The odor of nuts, of bread, or even of butter, as examples, may have to be sniffed hard to be detected at all by the nose, yet in normal eating these odors are released in the warmth of the mouth and travel to the smelling area, becoming quite important. Whether flavor odors are weak or powerful, ephemeral or lasting, they have the ability to stimulate the sense of smell; therefore it is desirable to be able to describe and define them.

So far as is known, in this largely unexplored field, all persons that have any sense of smell have approximately the same kinds of odor sensations as all other persons. Some people have keener noses than others for sniffing, however, but nearly everyone seems able to perceive the odor part of flavor satisfactorily while eating. It appears that while most people have a good sense of smell, only a relatively few individuals are sufficiently odor-conscious and well-trained to make effective use of it.

ODOR ANALYSIS

The Crocker-Henderson system of odor analysis operates on three assumptions: (1) that the human nose is provided with four and only four kinds of odor nerves, (2) that every odoriferous substance, sniffed in adequate amount, stimulates all four kinds of these nerves simultaneously, to the extent characteristic of the substance and of its concentration, and (3) that the odor sensation chord thus created by the excitation of the nerve endings is capable of producing a distinctive odor impression. These assumptions have not been rigidly proven, it is true, by physiologists, but use of the system for a period of over twenty years has shown that it is a tool capable of defining otherwise abstract and intangible odors.

The four postulated components of odor are:

1. *Fragrance*, the element of sweetness prominent in flowers, in wintergreen and in musk. It is not synonymous with "flowery," for flower odors have all four components as do any other odors.

2. *Acidity*, the element of sour sharpness in odors, prominent in vinegar but also in camphor. Acidity is not dependent upon hydrogen ions, for odor "acidity" is also pronounced in the alkali ammonia, as well as in formaldehyde and other neutral substances.

3. *Burntness*, the element prominent in creosote and other tarry and burnt materials, but also prominent in the odor of animals, including the skunk.

4. *Caprylicness*, or goatiness, the odor element prominent in rancid odors, kerosene, formaldehyde and stenches in general.

Each odor component is easily recognizable in about eight degrees of intensity. In "odor sets," each of the eight intensity degrees is represented by a standard substance selected as not apt to change much in that component on aging. Each odor standard has, of course, values of all four odor components, but for comparison purposes, is used only for its indicated value of the specific component. The human capacity for odor analysis is so extraordinarily great that it is no trouble for most people to match odors, one component at a time.

A few examples of odor numbers are 7221 for vanillin, made from cloves, 7515 for coumarin, 5636 for gum camphor and 8775 for oil of true cinnamon. Flower odors are 7 or 8 in fragrant, 5, 6 or 7 in acid; 3, 4 or 5 in burnt; and 4, 5 or 6 in caprylic. The burnt and caprylic values are especially important in defining the character of particular flowers, as 44 for carnation, 35 for orange blossoms, 24 for lilac, 33 for lily, 35 for hyacinth and 45 for rose. Likewise, for the spices, as 54 for nutmeg, 75 for cinnamon and 65 for clove.

So important are the burnt and caprylic values, when working with the highly fragrant flowery and spicy odors, that these values may be used alone, plotted in appropriate spaces on a simple diagram, such as Chart 1. This particular chart was produced by odor-numbering more than a hundred selected interesting odors, of all types.

The technique used for preparation of the chart is described here in some detail.

First, the whole odor number was determined for each substance, working with an odor set. Next equal degrees of each component were checked against each other to be sure that they all belonged together. Thus all compounds having 8 fragrant were checked one against the other to be sure that all were definitely 8, this procedure was repeated for each degree of fragrant, then acid, burnt, and caprylic. As a final stage, the bottles of the various substances were placed on a space diagram laid out on a table, burnt vs. caprylic, like that of the chart for further checking.

ODOR VALUES

The odor values were derived by three individuals. In general each person worked alone with the standards as reference, and wrote down his findings on the bottle label. In every stage of the work when disagreement between

*Arthur D. Little, Inc., Cambridge, Mass.

From a talk presented before the 38th annual meeting of the Flavoring Extract Manufacturers' Assn.

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August ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1947

New Dye Method For Testing Cotton Fiber Maturity Is Developed

A differential dyeing procedure which demonstrates the maturity of cotton fibers has been developed in this country, it was announced recently. The method is based on the facts that mature cotton fibers are thick-walled and immature ones thin-walled, and that thick- and thin-walled fibers take the same dyes differently and also take different dyes. The test is said to be made easily on unprocessed cotton lint in laboratory or dye-house.

A mixture of dyes of contrasting colors, red and green, and of different dyeing properties, is used with a standard method of dyeing. The thick-walled, or mature, fibers dye definitely red, whereas the thin-walled fibers, commonly called immature, dye a distinct green. As a result, differentiation is easy.

The test may be used to test the progress of fiber development on seed, for comparing commercial cottons of different growth varieties, or to indicate to cotton mills certain lots of cotton which require special care.

Copies of Illustrated U.S.I. Booklet Available

An interesting 48-page booklet entitled, "U.S.I. in the World of Chemistry," describing the use of U.S.I. chemicals in modern industry is now available.

Full color pictures and charts show how solvents, alcohols, resins and other chemical building blocks are utilized in the everyday commodities of commerce. Copies may be obtained by writing to the New York office of U.S.I. on your letterhead.

New Method Slashes Moisture Assay Time

A method for the determination of moisture in certain bituminous mixtures which slashes almost three hours from standard analysis time has been developed by a mid-western government bureau.

In this test, samples of a bituminous mixture are shaken with Solox, U.S.I.'s proprietary alcohol-type solvent, which is miscible in water. The resulting effect is manifested by a change in gravity of the Solox-water solution which may be determined by a sensitive hydrometer. Previously prepared curves are consulted to obtain the moisture value of the bituminous mixture. Accuracy is usually plus or minus .1 to .3 per cent when the original material contains 4 per cent moisture or less. Time of analysis is stated to be 20 minutes or less, compared with 2 to 3 hours by conventional methods.

Solox is one of the most versatile and widely used of all solvents. It is finding an ever increasing market as a general solvent for innumerable industrial purposes. It has faster and better solvent power than completely denatured alcohol, has a mild non-residual odor, and is readily available for any manufacturing or other lawful purpose with only minor restrictions.

U.S.I. Boosts Diethyl Oxalate, Diethyl Carbonate Production

Move is Made to Meet Increasing Demands for These Versatile Chemicals in Lacquer Formulations and Organic Syntheses

Requirements for diethyl carbonate and diethyl oxalate, increasing steadily since the end of World War II, have made it necessary for U.S.I. to step up production of these versatile chemicals and to put plans into operation for expanding its manufacturing facilities. Diethyl carbonate is used in special-purpose lacquers and as a raw material for a wide variety of organic syntheses. Diethyl oxalate has found its greatest use in organic syntheses, but it also is employed today to extend and replace nitrocellulose solvents.

Diethyl Carbonate Has Many Applications

Originally used for lacquers which require a pure neutral solvent—lacquer for radio tube cathodes is an example—diethyl carbonate is now employed in many diverse types of organic syntheses. These range from manufacture of comparatively little-known compounds such as ammeline (2-hydroxy-4, 6-diamino-1, 3, 5-triazine), to the preparation of pharmaceutically-important barbiturates.

Diethyl carbonate may be employed in Claisen condensations to react with esters of aliphatic acids, with esters of aryl substituted aliphatic acids, and with ketones and cyanide derivatives. It may also be reacted with a Grignard reagent to give the next higher acid, and with primary and secondary amines to give the corresponding substituted ureas. Among the other products produced with the aid of diethyl carbonate are: sodium ethyl carbonate, urethan, urea and carbohydrazide.

Diethyl carbonate is considered as nearly a neutral solvent as it is possible to make. It is a medium evaporating solvent, characterized by the desirable features of mild odor and

(*Continued on next page*)

Claims New Process Will Develop Film in 15 Seconds

A high-speed process for developing photographic film that makes it possible to project an image on a screen only 15 seconds after a picture is taken was announced recently.

The exposed film is treated with hot solutions in a special processing cup which restricts the liquids to a small circular area on the film. The process is carried out at approximately 60°C., development requiring only three to four seconds and fixing six. The spent solutions are quickly removed by suction, and the nearly-dry developed and fixed film is fed into the projection system where an air-pressure gate completes the drying, cools the film, and holds it flat while it is being projected.

If it is desired to project a positive rather than a negative, a strong dichromate bleach is used in place of the fixing bath, and reversal processing can be achieved in less than 10 seconds. In a typical machine, the film is drawn through a series of tanks containing developing, rinsing, fixing, and washing solutions at a uniform rate so that a given portion of film remains in each bath about 5 seconds. Drying requires about 15 seconds. Total processing requires about 35 seconds and yields image quality comparable to that obtained in normal motion picture processing machines in 35 or more minutes.

High fidelity video reproduction is made possible by the new-type television camera said to be as sensitive as the human eye. To prevent current leakage, cathodes in the camera tubes are impregnated with a lacquer containing diethyl carbonate.

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August ★ **U.S.I. CHEMICAL NEWS** ★ 1947

Diethyl Carbonate, Diethyl Oxalate

(Continued from page 1)

high stability. It is useful wherever a pure neutral lacquer solvent is required.

Diethyl Oxalate is Nitrocellulose Solvent

Diethyl oxalate is an excellent solvent for nitrocellulose and has a slow evaporation rate. While its applications have previously been limited to specialized fields, due to its tendency to hydrolyze, it is now being used very successfully where special care is taken to eliminate all possible water from the formulation. It is recommended that, wherever possible, diluents with high aromatic content be used, inasmuch as diethyl oxalate has a much higher dilution ratio with aromatic hydrocarbon diluents than it has with petroleum naphthas.

Diethyl oxalate offers many possibilities in chemical syntheses. Here are a few typical examples: With ethyl acetate in the presence of sodium ethoxide (sodium ethylate) it yields ethyl sodium oxalacetate. With acetone in the presence of sodium ethoxide, it yields xanthochelidonic acid ester (acetone dioxalic ester) from which the ethyl ester of chelidonic acid may be obtained. Gamma-pyrone may in turn be obtained from this latter substance.

With zinc and alkyl iodides, it gives ethyl esters of dialkylglycolic acid. With sodium amalgam, the alcoholate of ethyl glyoxylate, diethyl oxomalonate, ethyl *dl*-tartate, and the ethyl ester of desoxalic acid may be obtained, and by reacting with phenylhydrazine, the phenylhydrazone of ethyl glyoxylate.

Electrolytic reduction gives ethyl glyoxylate. With sodium ethoxide and urea, it gives parabanic acid (oxalylurea). It is used to manufacture phenobarbital. With ortho-nitrotoluene and sodium ethoxide there results ethyl o-nitrophenylpyruvate. By distilling with an alcohol other than ethanol, the oxalic ester of the alcohol may be obtained through alcoholysis.

HEAVIER POULTRY PRODUCED WITH FERMENTATION SOLUBLES IN BROILER FEED

In raising broilers it is essential to produce the maximum quantity of poultry meat at the lowest possible feed cost. Listed below is a ration which has been recommended by a leading university's experimental station. It has been used with success by feed manufacturers and individual farmers.

Ground yellow corn	580
Ground heavy oats	300
Wheat middlings	200
Wheat bran	250
Soybean oil meal	200
Corn gluten meal*	50
Alfalfa leaf meal	100
Meat scraps	100
Fish meal	100
Manganese sulphate	¼
Fermentation solubles (80 micrograms riboflavin per gram)**	25
Dried milk product***	50
Ground limestone or oyster shell	25
Bonemeal or defluorinated rock phosphate	10
Salt	10
Vitamin A and D feeding oil or its equivalent (400 units D per gram)	4

*Corn gluten meal or other vegetable protein meal such as peanut meal. Additional soy bean meal may be substituted when other vegetable protein are not available.

**U.S.I. manufactures Curbay BG, a dried fermentation soluble product which contains 80 micrograms of riboflavin per gram of material.

***This may be omitted if riboflavin or riboflavin substitutes are available. U.S.I. offers two natural riboflavin products in its line: U.S.I. Riboflavin Concentrate No. 85 (85%) and U.S.I. Riboflavin Mixture No. 1 (1 gram per ounce).

New Seed-Disinfectant

A new chemical seed-disinfectant, said to control insects that attack seeds in storage, has been announced.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

A photosensitive glass, which is said to be capable of receiving permanent colored photographic prints with three-dimensional effects, has been announced. **(No. 224)**

USI

A new-type spark-resistant flooring, used during the war in munition plants and gun-turrets, is said to be static conductive. **(No. 225)**

USI

A new synthetic detergent, can be used on all types of washables in both hard and soft water, according to the manufacturer. **(No. 226)**

USI

To measure moisture in any substance, a direct-reading electronic moisture meter has been placed on the market. It is said to provide the percentage of water automatically in 15 seconds. **(No. 227)**

USI

A new anti-corrosive finish, aimed at protecting metal, wood, and concrete against moisture, acids, and other disintegrating elements, is claimed to dry by evaporation and to be free of paint odors. **(No. 228)**

USI

A true-polyvinyl chloride paste-forming resin, claimed to be the first of its type to be made in this country, is said to eliminate the necessity for heavy and expensive equipment in coating operations. **(No. 229)**

USI

To fray-proof rugs, a new rubber-like compound has been developed, which the makers say is waterproof and can be applied to any type of rug. **(No. 230)**

USI

A polystyrene that withstands boiling for short periods of time and has other improved physical and chemical properties has been developed. It is claimed to have an unlimited color range. **(No. 231)**

USI

A new non-flammable paint remover is rapid, requires no neutralizing after-use, and contains a plastic retarder to keep the remover on upright and overhead surfaces, according to the manufacturer. **(No. 232)**

USI

To improve leather quality, a new coating for chrome- and vegetable-tanned leathers is being marketed. It is said to reduce shrinkage and to provide added smoothness in grain. **(No. 233)**

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5-Chloro-2-pentanone
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persons occurred between the findings on a particular sample, those digits were rechecked until a decision was reached as to the proper odor number.

The substances selected for this chart include: chemicals which are sometimes used for flavoring purposes, natural flavors, or non-flavoring substances scattered about for orientative purposes, to illustrate what odors are to be expected in particular areas of the chart. These substances tested were of various origins and ages and not necessarily the purest. As far as possible, sophisticated or "touched-up" preparations were avoided. It is appreciated that freshly prepared substances often have different odors from the same lots of material normally aged for use, and that there may be variation in samples of the same substance obtained from various sources. Furthermore, if certain other substances, for example, those acting as antioxidants, are present, odor changes may occur at rates different from normal.

In all instances, the odor numbers represented in Chart I were observed for full-strength materials. These numbers, therefore, tend to be higher than for the substances as they appear in great dilution in flavors. The change in odor number for a given degree of dilution has not been worked out as yet. However, Planck[1] in Germany, has reasoned that for any degree of dilution, all digits of an odor number should be reduced by the same arithmetical amount, in the Weber-Fechner law, which states that sensation is proportional to the logarithm of the stimulus, is to hold good. That is, if the odor were diluted so as to reduce one digit by one unit, then each of the other three digits would also be reduced by one unit. Thus the addition of mere traces of vanillin, 7221, to a perfume should add essentially only fragrance and not the distinctive odor of vanillin itself, since the low acid, burnt and caprylic digits should become 0 on such dilution. This type of "exaltation" of fragrance is even more pronounced with musks and ambergris.

The great convenience of a single-plane chart to catalog the outstanding characteristics of important flavor odors outweighs any limitations it may have, and makes possible description of odors in terms of numbers, which helps one to find related or complementary substances. Most of the various substances listed on this chart within any given box have odors recognizably similar. However, if the fragrant and acid values are not also alike, the odors can be distinguished readily. Even where two substances have identical numbers using the whole units of the system, they can usually be distinguished, since the nose is more exacting than the eight degrees of the system, especially with trained operators. Also, good operators unconsciously take advantage of volatility differences in the various substances. Finally, most flavors are not single pure substances, but are mixtures and the various odor notes are detected as the different constituents evaporate, from foods or from so-called "blotters."[2] Other odor charts, such as fragrant-acid may also prove useful for certain applications.

Odor numbers may be used as inspection criteria. For example, a really good ethyl alcohol has a caprylic value of not over 4. No other odor specification is needed. Likewise, vanillins can be specified as not to be over 2 in burnt or 2 in caprylic, and so on. Many other applications may be found for the odor system. In doing work like this over any period of time, there gradually develops a feeling for odor and its possibilities that makes flavor work a delight.

[1] R. Planck, *Die Chemie*, **57**, 154-156, 1944.
[2] E. C. Crocker "Flavor" p. 90 McGraw-Hill Book Co., Inc.

CHART 1
BURNT VS. CAPRYLIC ODOR NUMBERS
ESSENTIAL OILS AND ODOR CHEMICALS OF INTEREST TO FLAVORING EXTRACT MANUFACTURERS
ARTHUR D. LITTLE, INC.
CHEMISTS - ENGINEERS

BURNT	1	2	3	4	5	6	7	8
8			PHENOL	BEECHWOOD CREOSOTE	SALICYL ALDEHYDE	OIL THUJA	OIL RUE OIL TAGETE CAMPHENE	2-3 DIMETHYL PIPERIDINE QUINALDINE
7			LABDANUM	OIL VETIVER OIL CELERY SEED OIL CORIANDER	OIL CINNAMON OIL CLARY SAGE OIL PARSLEY BENZALDEHYDE NITROBENZENE	OIL ANGELICA ROOT OIL ANGELICA SEED OIL CARDAMON OIL ESTRAGON OIL PINE NEEDLES	OIL PATCHOULI INDENE	HEPTALDEHYDE OCTALDEHYDE
6				MEJHYL BENZOATE	OIL OLIBANUM EUGENOL	OIL PEPPERMINT NAT OIL SPEARMINT OIL SWEET MARJORAM OIL TANSY MENTHOL	ALDEHYDE C-10 FENCHYL ALCOHOL METHYL HEPTINE CARB NAPTHALENE	OIL COSTUS
5		ISO-PROPYL SALICYLATE	ANISIC ALDEHYDE BENZYL SALICYLATE SAFROLE	α-IONONE OIL CASSIA OIL NUTMEG METHYL BENZYLIDENE ACETONE	OIL SANDALWOOD BENZYL ALCOHOL DIMETHYL ANTHRANILATE	OIL LAVANDER OIL PEPPERMINT, RECT PHENYL PROPYL ALD. TETRAHYDRO LINALOOL	ALDEHYDE C-11 " C-12 " C-14 (PEACH)	n-VALERIANIC ACID FORMALDEHYDE SKATOLE
4		OIL ORANGE SWEET	CINNAMIC ALCOHOL	OIL BOIS DE ROSE CARNATION ISO-EUGENOL METHYL ISOEUGENOL RHODINOL	α-AMYL CINNAMIC ALD. OIL COPAIBA ANETHOLE METHYL ANISATE OTTO ROSE	EUCALYPTOL ISO-BORNEOL METHYL CINNAMATE	ALCOHOL C-8 α-PHENYL METHYL-CARBINOL	INDOLE
3			ALDEHYDE C-16" CITRONELLOL MUGOL NEROL PHENYL ETHYL SAL.	ALPINE VIOLET ANISIC ALDEHYDE RHODINYL ACETATE	OIL LIMES OIL NEROLI OIL YLANG YLANG PHENYL ETHYL ALCOHOL VANILLA EXTRACT	d-BORNEOL CAMPHOR HYDROQUINONE MONO-METHYL ETHER PHENYLACETIC ACID	ALCOHOL C-9 METHYL NONYL ACETALDEHYDE	BUTYRIC ACID
2	VANILLIN	VANILLYL ALCOHOL	BENZYL SALICYLATE BUTYRONAL ETHYL CITRATE HYDROXY CITRONELLAL PHENYL CELLOSOLVE	OIL LEMON ANISIC ACID JONQUIFLEUR LILAC	METHYL ANTHRANILATE TERPINEOL	LAURYL ACETATE	ALCOHOL C-10	CUMINIC ALDEHYDE
1	ANISIC ALCOHOL	ANISYL ACETATE ETHYL ANISATE	DIMETHYL PHTHALATE METHYL COUMARIN MUSK KETONE	CINNAMIC ACID ETHYL ALCOHOL MUSK AMBRETTE MUSK XYLOL	ACETIC ACID COUMARIN HELIOTROPIN		ALCOHOL C-12	

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SOAPS

Medicated and Cosmetic Soaps

*The composition of medicated and cosmetic soaps and the effects of soap on the skin are presented**

S. ALPERIN

THE most common superfatting agents are lanolin and Vaseline. Percentages up to 2 per cent are practically without effect on the lathering properties of soap. Higher percentages may reduce the lathering power somewhat, still even 4 per cent of lanolin or Vaseline only slightly reduces the foam of the soap.

It is possible to prepare from the lanolin in combination with other ingredients a kind of a cold cream with about 40 per cent water, to mix with this cold cream the perfume to be added to the soap, and to add this mixture of cream and perfume to the soap during the milling process. Such a concentrated lanolin—Vaseline "cold cream" may be prepared according to the following formulas:

lanolin 10 parts
Vaseline 10 parts
water 10 parts

The water is slowly added to the melted fat mixture (50 deg. C.) and stirred till the cream becomes cold. The amount of perfume calculated on the soap is mixed with the waxes before the water is added. The resulting creamy emulsion may not be completely stable, but this is not of great importance so long as it is stable during the time it is added to the soap during milling.

The following is a formula for a more genuine cold cream into which the perfume may be added after the cream is ready prepared.

stearic acid	30 parts
lanolin anhydrous	36 "
Vaseline (petrolatum)	33 "
triethanolamine	6 "
water	90 "

Melt the stearic acid, lanolin and petrolatum and heat to about 70 deg. C. Prepare in a separate kettle a solution of the triethanolamine and water, heat to 70 deg. C. and add to this the hot molten waxes and fats. Stir vigorously until a creamy emulsion is obtained. Continue stirring until homogenous and the product has reached the proper consistency.

In contrast to other saponifiable or partly saponifiable superfatting agents it is possible to use lanolin in a saponified form. Taking into account the saponification value of lanolin (ca 97) a pure lanolin soap may be prepared with concentrated caustic soda. The resulting soap is soft in texture, dark in color, but with only a faint odor. This pure lanolin soap is then passed over rollers to be made into thin strips or ribbons which are exposed to sunlight to bleach them. After three or four days' exposure they are yellow to white in color. From the original lanolin about 50 per cent remains as unsaponifiable wool wax alcohols within this soap which may be added to ordinary toilet soap during the milling process in percentages of about 25-30 per cent.

Lanolin often forms the basis for compound superfatting agents.

The following formula may serve as an example:

	parts by weight
Borax	1.70
Lanolin	18.75
Boric Acid	1.55
Water	46.75
Stearine	18.75
Casein	12.50

This superfatting composition may be added in proportions of 2-4 per cent.

*This article is continued from the July issue of THE AMERICAN PERFUMER.

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Lecithin as a superfatting agent to be added during the milling process has much to recommend its use. Lecithin in percentage up to 4 per cent does not reduce the lather of soap, and its effect on the skin is agreeable. However, the question of whether lecithin enhances or prevents rancidity in soap is not yet answered.

Superfatted toilet soaps are so mild on the skin that they may well be used for preparatory face cleaning before the application of cosmetics and for the removal of cosmetics from the skin. Thus it is justified to consider a properly superfatted toilet soap as a "cosmetic soap."

THE GERMICIDAL EFFECT OF SOAP

Now we have to deal with another aspect of soap, which must be considered before going into details about medicated soaps and similar products. It is the germicidal effect of soap:

E. C. McCullogh[4] in his text on disinfection and sterilization points out: "The common procedure of washing the hands with soap and water is of greatest sanitary significance. A mere estimation of the ability of soap solution to kill bacteria does not evaluate the hygienic benefits derived from washing the body in soap and water. Bacteria are enmeshed in the soap lather and removed from the skin with the rinse water and, since they can no longer be a source of danger, it makes little difference whether they are dead or alive. A clean skin is able to free itself of many pathogens; a power not shared equally by a dirty skin."

Soap acts as a germicide as well, but the nature of this germicidal action is not yet understood. McCullogh enumerates the following factors which influence the germicidal activity of soaps. (1) the fatty acid radicals present in the soap; (2) the state of saturation of the fatty acid constituents; (3) the temperature and the concentration of the soap solutions when applied to the bacterial cells; (4) the amount of foreign matter present.

Microorganism vary considerably in their resistance to the attack of soap. These differences may be due to the structure of the cell membranes to prevent the entrance of the soap solution into the inner cell. Some observers have pointed out that the action of soap is mainly effective on the fatty substances in the capsule of certain microorganism. Research was carried out very early to establish what kind of soaps are effective as germicides and against what microorganism, but it is impossible to quote from all these experimental papers. It seems to be established that soap itself has a germicidal effect. However, we would not claim that soap *is* a germicide. To call a substance a "germicide," a stronger germicidal effect in low concentrations and on many kinds of bacteria, etc., is required rather than a weak germicidal effect of pure soap solutions.

But a germicidal effect of general purpose toilet soap besides its effect as a "germ remover" is seldom required, its germ removing effect is generally sufficient.

It must be mentioned that soaps containing a high percentage of rosin have a relative greater germicidal effect. (Soap as an ingredient of disinfectants will be dealt with in the last part of this article.)

SOAP AS A CARRIER OF SPECIAL INGREDIENTS

One of the main ingredients added to soap to produce "medicated soaps" is still *carbolic acid* (phenol). This in spite of the fact that as early as 1928, Bettylee Hampil[5] found that the soap apparently interferes with the action of the disinfectant rather than enhances it, as occurs with the higher phenols when less than 1 part of soap is present to each part of phenol or cresol.

We will see later that cresylic acid is a strong disinfectant in combination with soap, if the proportion of cresylic acid to soap is more than 1:1.

For disinfectant soaps *chlorocresol* is much more effective, e.g., 1-2 per cent to milled soap.

TI-TREE OIL

A very strong disinfectant which may be added to soap is ti-tree oil. The oil is distilled from Australian ti-tree, M.alternifolia, and contains about 50-60 per cent of terpenes, including cineole (up to 8 per cent) and terpineol, to which the odor is largely due. It is antiseptic and has been advocated as a non-irritant germicide for general and surgical use. It has a Rideal Walker Coefficient of 10, but there are also less efficient brands on the market. Ti-tree oil was found to have the following characteristics[6]:

Specific gravity	0.8985 to 0.8961
Optical rotation	plus 6, 8 plus 7, 4
Refractive index	1.4782 to 1.4790
Ester No.	4 to 7
Ester No. after acetylation	80 to 84

The usual high germicidal potency—coupled with a complete absence of toxicity and irritation—is one of the oil's most valuable and individual characteristics. Usually 2-4 per cent of ti-tree oil is added to the toilet soap. The high disinfectant value makes it a favorable addition to shampoos. A percentage of 3-4 per cent is sufficient for liquid, powdered and paste shampoos. To hard soap, ti-tree oil is, as a rule, added in the crutcher, to powdered soap in the mixer, and to liquid soap, simply added to the liquid. Occasionally in the last case the percentage of ti-tree oil must be lowered in order to assure the clarity of the liquid soap.

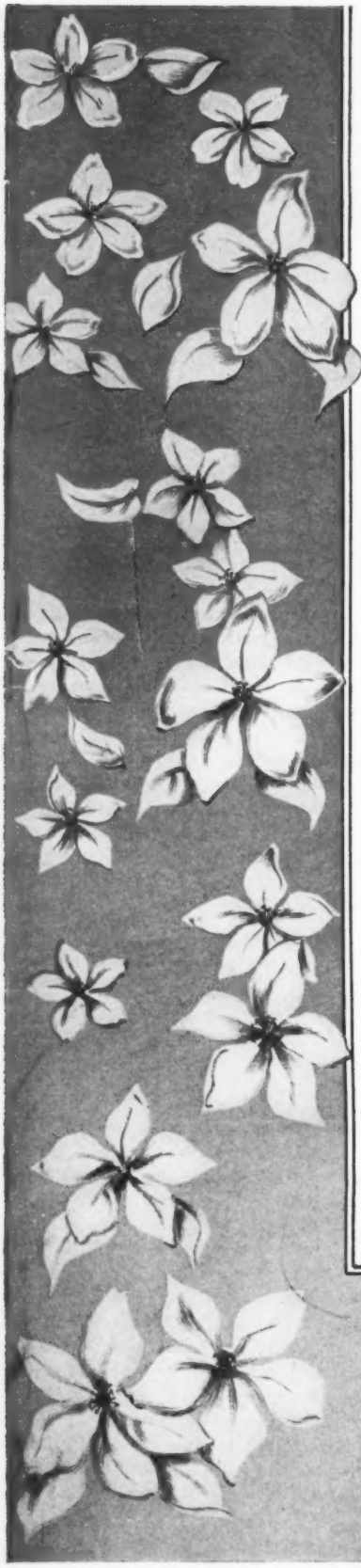
Here is a representative formula:[7]

	Parts
Oleic acid	7
Ti-tree oil	3
Coconut fatty acid	12
Triethanolamine	10
Glycerine	2
Water	66

ADDITION OF TAR

The addition of tar to soaps, especially shampoos, is very popular. For therapeutic purposes the chief grades of tar are coal tar and wood tar, the former being obtained by the dry distillation of coal and the latter by dry distillation of various woods. Owing to certain unpleasant qualities of tar (odor, color, skin irritation, etc.) efforts have been made to isolate its pure therapeutic constituents and thus eliminate unpleasant secondary effects. Efforts made to obtain a fairly uniform product (an important point in the case of such a widely used medicament as tar, owing to the possibility offered of exact dosing) have had a successful outcome in the patented product "Anthrasol" (German Pat. *166,975*). Although it has a powerful odor, the color is pale and it is therefore suitable for light-colored soaps. The product is obtained from coal tar by treatment with sulfuric acid and oxidation agents and following distillation.

Tar may be incorporated into the fat charge itself in



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the case of cold or semi-boiled soaps. Addition of finely dispersed tar to liquid shampoos is often used.

USE OF SULFUR

The use of sulfur is highly popular. Sulfur flowers or colloidal sulfur are generally used. The sulfur flower may either be added to the caustic lye used in making the soap or to the soap mass. To prepare colloidal sulfur, use is made of potassium sulfide which is dissolved in the minimum quantity of hot water and added in a proportion not exceeding 30 per cent to the hot soap mass. The proportion of sulfur in ordinary sulfur soaps ranges from 3 to 10 per cent. Sulfur soaps are frequently prepared in combination with beta-naphtol, tar, glycerin and camphor. They are also frequently superfatted. The action of sulfur is weakly reducing and antiparastic, it is especially indicated to use sulfur containing soaps in skin diseases such as acne, seborrhea, etc. Although amorphous and even crystalline sulfur is used, colloidal sulfur is more effective.

An important addition to medicated soap is *ichtyol*, frequently used in combination with sulfur. Ichtyol[8] is a viscous, almost black substance with a disagreeable odor, consisting chiefly of the ammonium salts of the sulfonic acids of an oil prepared from a bituminous schist.

It contains not less than 10.5 per cent of organically combined sulfur, and sulfur as sulfates is not more than one-quarter of the total sulfur. It contains not more than 50 per cent of water.

Soluble in water; partly soluble in alcohol (90 per cent) and in ether; miscible with glycerin and fixed oils. The following formula is given for a milled ichtyol-sulfur soap.[9]

Soap chips	28 lbs.
Ichtyol	4½ oz.
Petrolatum	2 oz.
Zinc oxide	2 oz.
Flowers of sulfur	2 oz.
Chlorophyll (oil-soluble)	1½ oz.
Medicated perfume	4 oz.

A very important group of additions to medicated soaps are the *mercury compounds*. Soaps containing mercuric iodide are the most common form of mercury soaps and go back to an old English patent of Thompson (No. 9,591 of 1886). Mercuric iodide is dissolved in a hot aqueous solution of potassium iodide to form $K_2H_6I_4$ and the solution incorporated with the previously prepared curd soap chips. Mercuric chloride, $HgCl_2$, is more difficult to incorporate, as this salt may form the mercury fatty acid salt in the soap, and the soap is no longer effective. Better results are obtained in soap with mercury oxycyanide, Hg (CN_2HgO). Mercury soap is especially popular as a disinfectant in gynaecology. It is usually applied solid and only rarely in the liquid form. The results of experiments with mercuric compounds in combination with soap are reported in McCulloch text.[10]

The rather unusual effect of soap on the germicidal action of mercury was discussed by Hamilton (1920) who found that when ad-mixtures of soap and potassium mercuric iodide or the so-called "bi-iodide of mercury" were tested on E. Typhosa the soap merely acted as a vehicle, but upon Staph. aureus the soap increased the germicidal action of dilutions of the mercury approximately three times. Hampil (1931) reported that a certain strain of Staph. aureus required a 1 : 1000 potassium mercuric iodide solution to kill in five minutes, but when 1 per cent sodium oleate was present, the organism was killed with a 1 : 300,000 mercury solution. Somewhat similar results were obtained with commercial soaps.

A special mercury compound, sodium hydroxymercuritoluate HO $Hg(Ch_3).C_6H_3COONa$ containing 53.5 per cent mercury was patented by I. G. Farben Industrie (Germ. P. 216.828.233.437) and is suitable for incorporation in soap in small percentages (e.g., 0.1 per cent).

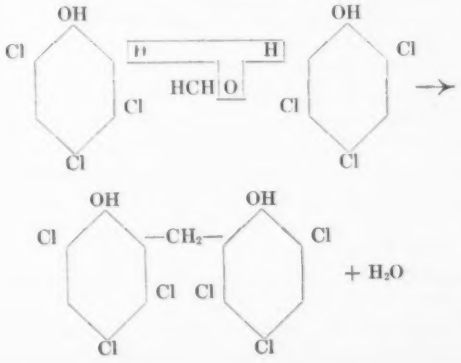
Below is shown a list of some lesser important substances used in medicated soaps:

Ingredient	Percentages commonly used
β naphtol	5
tannic acid	7-10
eucalyptus oil	3-4
thymol	3
carvacrol	3
salol	2-3
camphor	2-3
potassium iodide	5
resorcin	4-5
menthol[11]	2-3
salicylic acid	3-8
formaldehyde (40%)	1-2

The addition of camphor to soap (e.g., shaving soap) in cold and rough climate has much to recommend it. It gives a warm feeling on the skin and thus reduces the trauma of cold weather and "after shave." The opposite effect—namely cooling—is produced by menthol. Sometimes combinations of menthol and camphor are recommended as well. Soaps containing camphor and/or menthol have a soothing effect on nervous people suffering from headaches.

Mention must be made of a modern germicide effective when 2 per cent is incorporated into toilet soap during the milling process.

The product is marketed by Givaudan-Delawanna, Inc.,[12] under the name of G-11 and is prepared by condensation of two molecules of 2,4,5-trichlorophenol with one molecule of formaldehyde in presence of concentrated sulfuric acid, as shown in the formula below, forming the compound bis-(2-hydroxy -3,5,6-trichloro-phenyl) methane.



G-11 is a white, crystalline substance, melting at 164-165 deg. C. It is practically insoluble in water, but soluble in alcohol, acetone and dilute alkalis.

When tested in the form of its monosodium or potassium salt, the compound is strongly bacteriostatic and bactericidal against Staphylococcus aureus and other gram-positive bacteria, but is of considerably lower activity against gram-negative microorganisms, such as E. typhosa and E. coli. Its phenol coefficient against Staphylococcus aureus at 37 deg. C., determined by the Food and Drug Administration method (Circular 198), is approximately 125. The

substance is relatively non-toxic with a minimum lethal dose for guinea pigs of about 300 milligrams per kilogram body weight. Very extensive research shows that G-11 used in a percentage of 2 per cent in milled soap has a strong germicidal effect. It is beyond the scope of this article to go into details about the best method employed to prove the efficiency of a 2 per cent G-11 toilet soap, but the evidence brought forward by wellknown bacteriologists[13] seems to justify the conclusion that the compound G-11 is a great step forward in the development of a germicidal toilet soap useful for the general public and for the medical profession as well.

SOAP AS AN INGREDIENT OF DISINFECTANT LIQUORS

The classical disinfectant soap solution is Liquor Cresolis Saponatus of the USP XII consisting of

Cresol	500 parts by volume
Vegetable oil	350 "
Potassium hydroxide (of 85 per cent KOH)	72.6 parts by weight
Alcohol	55 parts by volume
Distilled water to make	1000 "

It is permissible to omit the alcohol and to replace 58.08 parts of KOH (85 per cent) by 37.05 parts sodium hydroxide (Na OH 95 per cent). It is the experience of the author that castor oil is a very convenient oil basis. Castor oil is almost instantaneously saponified by the cold method with the amount of KOH required dissolved in twice its weight of distilled or de-ionized water. After saponification is completed (a sample of the soap is clearly soluble in hot distilled water), cresol is added and lastly the necessary amount of distilled water.

This method is very convenient. After some experience is gained, no heating is required. The exothermic process of saponification will then suffice. For complete saponification of the castor oil.

As a matter of fact, the product can be manufactured on a large scale as well. These cresol solutions with soap are often marketed under the name of "Lysol." The germicidal value of Lysol also varies according to the particular soap used in its preparation. Soaps made from linseed oil or castor oil give the highest values, while those made with oleic acid give the lowest.[14] Other results were obtained by T. W. Tilley and J. M. Shaffer[15] using e. tiphosa with the Rideal Walker technique at 25 deg. C. The highest phenol coefficient was obtained with coconut oil soaps, the lowest with linseed oil and soya bean oil soaps. This contradiction may be explained either by the fact that different bacteria were used or that different conditions (temperature, etc.) cause different results.

For many purpose disinfectant liquors are prepared from *pine oil.*

According to Pickett and Schantz[16] pine oils are composed of the following resin constituents:

α terpineol 50-60 per cent; other terpineols 15-25 per cent; borneol 5-10 per cent; fentyl alcohol 5-10 per cent; esters 5-10 per cent; ketones and phenols 1-2 per cent.

Pine oil is a powerful solvent, so that it is possible to produce solvent soaps with strong germicidal power, which is very practical for hospital laundries. 20 p.c. of pine oil to a soft soap base, suitable containing some coconut oil as its fat base and some sodium hydroxide together with potassium hydroxide as saponification lye to give more "body" to the soap, gives a very good germicidal solvent soap.

Pine oil emulsions—or "soluble pine oil" as these products are often called—are usually produced on a rosin soap basis. 60-70 per cent pine oil, 10-20 per cent rosin soap (calculated as anhydrous soap) and not more than 10 per cent water are good and efficient disinfectants. The rosin is suitably dissolved in ¼ of the pine oil used and added at about 70 deg. C. to the warm lye. Then the remainder of the pine oil is added. Sometimes part of the rosin soap is replaced by highly concentrated turkey red oil.

Here are two formulas for "soluble pine oil."

1.	pine oil	70	parts
	rosin (light)	17	"
	caustic soda solution 38° Bé.	6.4	"
	water	6.6	"
2.	pine oil	70	"
	rosin	11.3	"
	caustic soda solution 38° Bé.	4.35	"
	turkey red oil	6	"
	water	8.35	"

The turkey red oil is added after saponification of the rosin. The addition of turkey red oil has an advantage in that the product is less sensitive to hard water.

The phenol coefficient of pine oil is between 1.5-4 when tested against E. typhosa.

These soluble pine oil emulsions are often replacing cresol liquors owing to their pleasant odor.

[4] E. C. McCullogh, Disinfection and Sterilization, 2nd Ed., Lea & Febiger, 1945, p. 354.
[5] Bettylee Hampil, Journ. Bacteriol. **16,** 287 (1928).
[6] K. N. Richardson, Soap Perfumery and Cosmetics **10,** 423 (1937).
[7] R. E. Goldsborough, Manuf. Perfumer through Drug & Cosmetic Ind. **44,** 359 (1939).
[8] Martindale, The Extra Pharmacopoeia Vol. 1 22nd Edition, London 1941, p. 621.
[9] Milton A. Lesser, Soap and Sanitary Chemicals **20,** No. 10, 35 (1944).
[10] McCullogh, l. c., p. 267-68.
[11] In dentifrice soaps much more menthol may be used.
[12] W. Gump, The Givaudanian, March and April, 1945. The patents relating to G-11 are USP 2 250 480 (W. S. Gump) and Brit. P. 545 648, E. C. Kunz and W. S. Gump.
[13] E. F. Traub, C. A. Newhall and J. R. Fuller, Surg. Gyn. Obst. **79,** 205 (1944), H. J. Udinsky, Journ. Med. Soc., New Jersey, **42,** No. 1, 15 (1945).
[14] Martindale, l. c., Vol. 1, p. 466.
[15] F. W. Tilley and J. M. Shaffer, Journ. Infect. Dis. **37,** 359 (1925).
[16] Pickett and Schantz, Ind. Eng. Chem. **26,** 709 (1934).

Glycerin Output Sets New Record

N. N. Dalton of the staff of the Association of American Soap & Glycerine Producers, Inc., told a recent meeting of the American Chemical Society in Kansas City that glycerin production in the United States reached an all-time high record of 69,000,000 pounds for the first four months in 1947, representing an increase of almost 25 per cent over the same period of 1946.

Copra Allocation Changed

Recommended allocation of copra from the Philippines is currently being changed by the International Emergency Food Council. Tonnage as revised (in oil equivalent) is as follows: Metric tons—Australia, 2,000; Austria, 14,000; Belgium, 6,000; Bi-Zonal Germany, 6,000; Canada, 20,000; Czechoslovakia, 18,000; Colombia, 7,500; Chile, 1,500; Costa Rica, 1,000; Cuba, 3,500; Denmark, 15,000; Ecuador, 1,500; Eire, 4,000; Finland, 5,000; France, 69,000; Greece, 1,000; Haiti, 500; India, 8,000; Italy, 30,000; Mexico, 12,000; Japan, 15,000; Palestine, 8,000; Nicaragua, 1,000; Norway, 11,000; Panama, 2,000; Peru, 2,000; Poland, 19,000; Sweden, 4,800; Switzerland, 11,000; Turkey, 3,000; Union of South Africa, 12,000; United Kingdom, 22,100; United States, 205,000; Venezuela, 5,000 and Yugoslavia, 5,000.

WASHINGTON PANORAMA

by ARNOLD KRUCKMAN

THE bill H.R. 4352 introduced by Congressman Bertrand W. Gearhart, of California, if enacted, will repeal all retail excise taxes on cosmetics, toiletries, and perfumes. Like many other members of both chambers of the Congress, Congressman Gearhart has been much impressed by the irritation and discontent widespread among the people about the excise taxes on so-called luxury merchandise, especially the products of your industry, and the excises on furs, jewelry, luggage, telephone calls, club dues, transportation, and similar articles and services which are intimately involved in the daily life of the average person.

Bertrand W. Gearhart

The bill drafted by Gearhart is taken very seriously in the Capital because he is a leading Republican, one of the very genuine wheelhorses of the party. He is the ranking member of the Ways and Means Committee of the House, is the Western member of the Republican Policy Committee, and is the senior and dominant Member of Congress from California. He is popularly known as "Bud" Gearhart, is regarded as one of the foremost lawyers on Constitutional law in the Congress, and was one of the founders of the American Legion. He was the Member of Congress who introduced the bill which was enacted as the Federal recognition of November 11 as Armistice Day. Gearhart is a direct descendant of the Capt. Gearhart who assembled the small boats in which Gen. George Washington made the immortal crossing of the icy Delaware River on Christmas Eve, which enabled the Revolutionary forces to signally defeat the British at Trenton and Princeton.

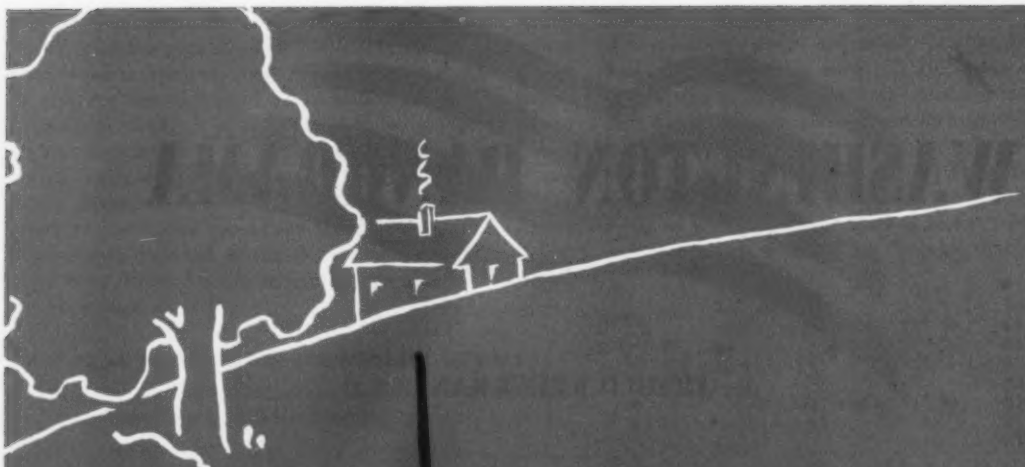
EXCISE TAX ON FULLY PROCESSED GOODS

The Gearhart bill would impose an excise tax on all fully-processed goods, at the manufacturers' level, except on food, tobacco, distilled spirits, beer, wines, and electrical energy. The present excises on tobacco, distilled spirits, beer, wines, and electrical energy would remain in effect. The gasoline tax would be increased from 1.5 cents per gallon to 2 cents per gallon; levy on importers 5 cents per pound tax on tea; and levy on importers a tax of 2 cents per pound on coffee. The new law would give the Federal Government 47.9 per cent of its revenue from income taxes, and 52.1 per cent from excises, estates, gifts, customs, and miscellaneous sources. The capital gains tax would be reduced from 25 per cent to 20 per cent; home owners would be allowed a tax reduction for depreciation of their dwellings.

Present income taxes would be lowered from the existing range of 19 per cent to 86.5 per cent to 14 per cent through 50 per cent. Corporate income taxes would be lowered from 32.7 per cent to 22.4 per cent. He points out that at present the Government raises over 80 per cent of its total revenue by tax levies on corporate and personal sources, while this 80 per cent is exacted solely from 40 per cent of the sources of our national income.

The various cases before the Foreign Trade Commission for alleged violation of the Robinson-Patman Act finally came to an end with the hearings on the Charles of the Ritz, Inc., proceedings, late in July. Clarification of the various cases will not be complete until the trade practice rules for the cosmetics and toiletries industry are promulgated. It now is expected the first draft of these regulations will not be published by the Federal Trade Commission until very late in August, and, more likely, not until September. The final public hearing is now expected to be held late in September, in Washington, D. C.

One of the last legislative acts of the Congress was to freeze the social security payroll tax at 1 per cent for another two years. If this act had not been passed, the economy would have been obliged to produce an additional $2,000,000,000 for the payroll taxes. Another interesting communication made to the Congress shortly before it adjourned was the notification from the San Francisco Chamber of Commerce that the third great Toiletries Show will be held in that city August 24 to August 30, at the



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The Department of Commerce has been informed by the American Vice Consul, J. William Henry, at Mombasa, Kenya Protectorate, in British East Africa, that export duties on patchouli oil and on patchouli leaves has been reduced to 10 per cent of the f.o.b. price per kilogram, which is reported to be the pre-war rate. Production of patchouli oil has become one of the prime industries of the Colony, since the war. The oil, in 1939 sold for $2.50 per kilogram; in 1940, $7.40; 1941, it sprang to $10.53. In 1942, it dropped to $9.41; and in 1943, to $8.20. Then in 1944 it soared to $44.00, and in 1945, to $47.79. Last year the fluctuations were even more extraordinary. In February, the price was $152.00 per kilogram; in April, $167.20; in June, $172.70; and the price remained static in July. In October it dropped to $99.00; and in November, to $88.00. Two shipments were made to the United States early this year. The first was sold at the price of $88.00 per kilogram, the second at $60.00. Thereafter the price dropped rapidly.

The American Embassy in Cuba reports that mixtures of essential oils imported into that country must be supported by certificates which show the proportions of natural oils and synthetic oils, although it is not required that the exact formula be revealed. The certificate also must show where the oils originated. The Commercial Attache of the Embassy made an effort to secure a modification of the regulation, but found that any change was unfeasible because there is higher duty on synthetic oils than on natural oils, and that the certification in regard to the country of origin is necessary because of the difference in customs tariffs for products of most favored nations as differentiated from nations not included under preferential tariffs. The exporter in the United States must provide a sworn statement from the manufacturer of the mixture, or from the laboratory where the mixture is produced.

From Guatemala the Department of Commerce received word that 98 per cent of citronella and lemongrass oils produced in that country was exported to the United States in 1946, at the record high price of $3.04 per pound. The price in 1945 was $1.15.

In India, at Mysore, where they produce the famous sandalwood oil, a new and very rare aromatic is being made of a herb called davana. The oil, still in minimum production, sold for $125 to $150 per pound in 1940-41. From Reunion, in the Indian Ocean, near North Africa, they sent solely to France, during the first three months of 1947, 9000 net kilograms of geranium oil, valued at 15,482,000 francs; 300 net kilograms of ylang-ylang, valued at 457,000 francs; and 3700 net kilograms of vetiver, valued at 13,905,000 francs. Ceylon, in the first quarter of 1947 shipped 170,000 pounds cinnamon-leaf oil having a value of roughly $18,000.

Perfume production in Peru increased 50 per cent in 1946. Profits also went up. Import restrictions on raw materials have hampered the development of the industry. Essential oils, and other materials, are classified as non-essential. Canada increased its production of toiletries from $19,700,000 in 1945, to $20,000,000 in 1946; exports in 1946 had a value of $804,540, and imports were valued at $720,645. The American Consulate General at Batavia, in the Dutch East Indies, reports that the production of black pepper in the Lampong district has been reduced by 50 per cent. This word came through before the present conflict.

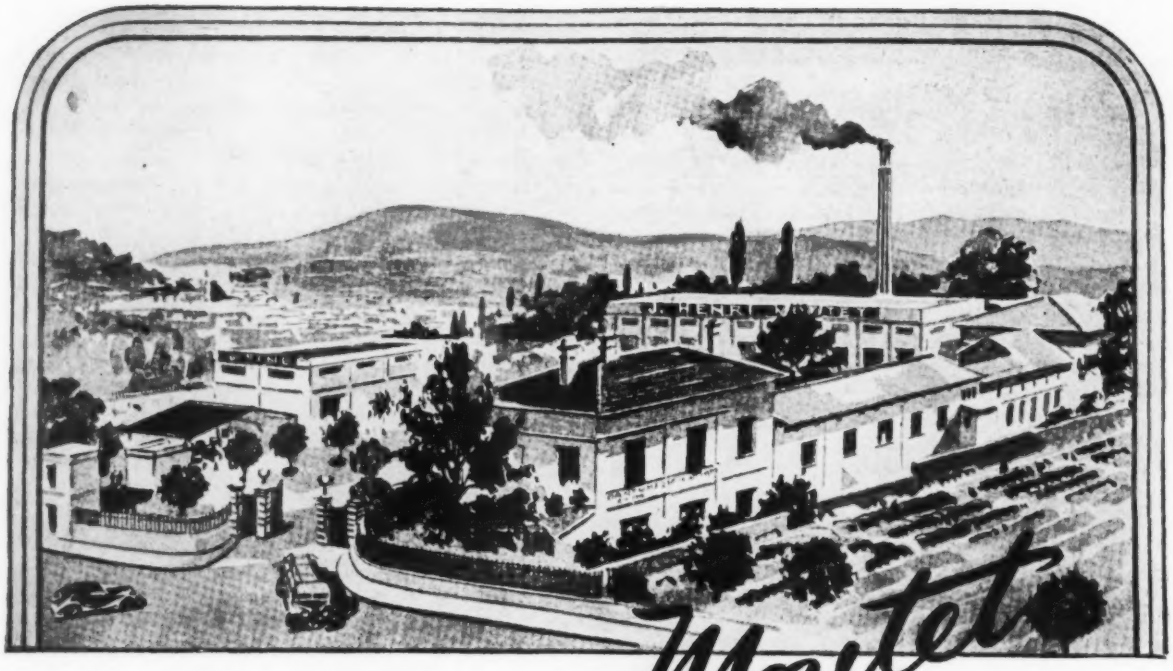
American trademarks, taken over by the Russians in German zones, have been offered to American owners by the Russians for sizeable sums. The situation is unique, but apparently there is nothing that can be done about it. It is expected the same situation may arise in Bulgaria, Hungary, Rumania, Yugoslavia, and Austria. In this country, under the new trademark law, it is warned that owners should carefully check each new dictionary, magazine, or medical book, to make certain that a familiar trade name is not listed without quotation marks. If the name of the article or product appears without the quotation marks to signify it is a coined trade word, the owners of the trade mark should write a letter to the publishers warning them of the trespass upon their rights. Otherwise they will lose their rights.

The new Lanham Act, now in force, authorizes the Federal Trade Commission to apply to the Commissioner of Patents to cancel the registration of trademarks on the principal register if the marks are deceptive, immoral, or scandalous, or which have been obtained fradulently or which are in violation of other provisions of the Act. Edward W. Thomerson, attorney on the Commission's legal staff, has been appointed assistant general council of the new division in charge of trademarks.

EXPORT AND IMPORT CONTROL

Export and import controls will continue to be enforced through next February 29, and, undoubtedly, thereafter, according to the President's statement. Several types of materials important to your industry are covered by the controls, especially fats and oils, as well as tins, and other materials.

Greater quantities of blackstrap molasses are expected to be available for American production during the latter part of this year by reason of more Cuban crops, according to Government reports. But even under these prospective conditions it is not anticipated that there will be a great increase in industrial alcohol, without more corn and other grains. The 1948 Cuban sugar crop is expected to be equal to the 1946 crop of 6,450,000 short tons. Heavy rains have vastly increased the volume of the anticipated yield. Holland's sugar production is reported to have reached pre-war volume of 1,620,000 metric tons. The 1947 crop is expected to be even greater. The British have purchased 50,000 tons Cuban sugar at 5 cents per pound. This is assumed to have made the total of British purchases to date something in excess of 200,000 tons. Congress is on record with the prediction that sugar will be in decided surplus before 1952, when the recently enacted law terminates. The Sugar Act of 1948 was passed on the last day of the session. Aside from quotas, it established an excise tax levied on the processor, approximately equal to the benefit payments; the quota for domestic consumption was fixed at 4,286,000 tons. Domestic beet sugar producers are allotted 1,800,000 tons; mainland cane sugar, 500,000 tons; Hawaii, 1,052,000 tons; Puerto Rico, 950,000 tons; Virgin Islands, 6000; the Philippines, 952,000; Cuba will be permitted to supply 98.64 per cent of the remainder needed. It is anticipated the basic need will be in excess of 7,000,000 tons. Industrial users' quotas have been increased from 75 per cent to 85 per cent.



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NEW PRODUCTS AND PROCESSES

New Paint Ingredient

The Heyden Chemical Corp., New York, N. Y., has pioneered in the development of a new chemical, "Pentek," which is incorporated in paints, enamels, varnishes and similar products at the time of their manufacture. It is stated that Pentek improves wear and mar resistance, gloss and color retention, and quick-drying properties, as well as giving better water and alkali resistance.

Rubber-Base Enamel

A new rubber-base enamel has been announced by The Wilbur & Williams Co. This material combines in one coating resistance to fumes and acid and alkali splashing. It is a high gloss enamel, available in white, black, aluminum, and nine colors. While the material is of rubber resin base, it is formulated into a highly penetrative coating which displaces any moisture on metal, masonry or wood surface, and dries in about an hour.

Photo Electric Counter

The new No. 153 Photo Electric Counter, manufactured by the Ripley Co., is designed to meet a need for a compact, easily installed packaged unit. Light source, phototube and counter are built in one housing, thereby eliminating long leads and unnecessary wiring. The unit operates on a 115 volt, 60 cycle current. The maximum number of counts before returning to 0 is 99,999.

The relay will carry a load of 3 amps. continuously for 8 million impulses. Minimum times for one cycle is .08 second or 700 cycles per minute. Minimum duration of beam interrupting a one inch object .02 seconds. Minimum light intensity, 2 ft. candles. Maximum light intensity for larger, slower moving objects is 1½ ft. candles.

Bonding Agent

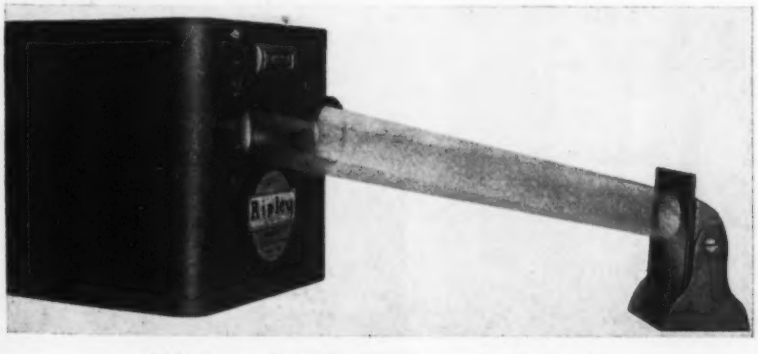
The National Adhesive Division of National Starch Products, Inc., has reported that it has developed an agent for bonding vinyl to vinyl. Success is also reported with vinyl acetate, butyral, chloride and acetate-chloride sheetings.

Electronic Timer

A new electronic timer, particularly adapted for use with a falling-ball viscosimeter in the study of the rapidly changing viscosity of an opaque fluid, has been designed by P. J. Franklin of the National Bureau of Standards. The device consists of pulse sharpening and trigger circuits, and the passage of the ball through two coils around the viscosimeter tube is used to trigger a radio frequency oscillator, starting and stopping a timing device.

A New Chemical

Pyruvic aldehyde is a new chemical for the industry now available in limited quantities from Carbide and Carbon Chemicals Corp., New York, N. Y. Larger scale production is anticipated in the near future. Pyruvic aldehyde is shipped as an approximately 30 per cent aqueous solution, which is a stable, yellow liquid. This compound contains two highly reactive carbonyl groups, and undergoes most reactions typical of aldehydes.



Light source, phototube and counter are built in one unit

New Catalogs

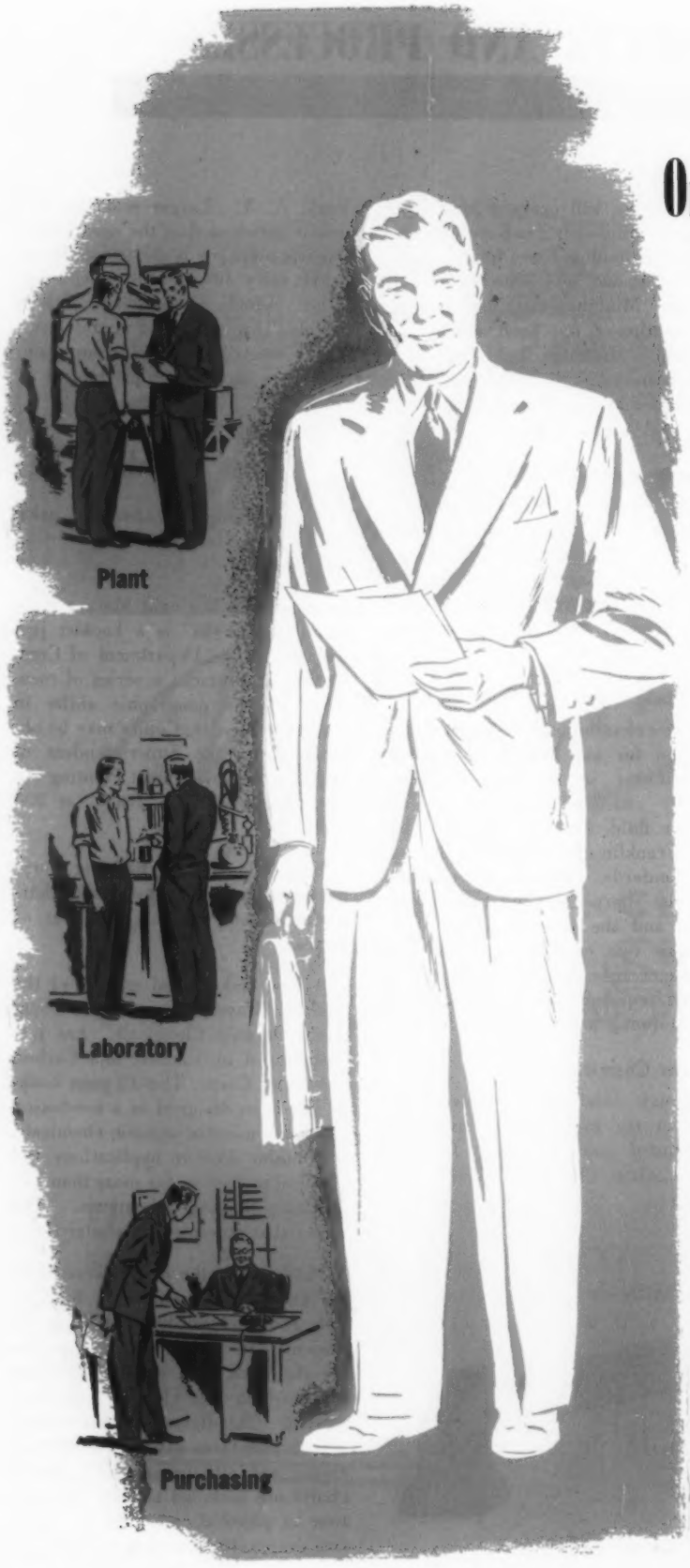
A new industrial chemical price list is available from Merck & Co., Inc., Rahway, N. J.

"State and Regional Market Indicators 1939-1945" is a booklet just released by the Department of Commerce. It provides a series of measures of the geographic shifts in economic activity. Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., at 20¢ each.

International Wax Refining Corp. has issued a booklet stating the characteristics and uses of a number of waxes.

A new and revised edition of the booklet, "Physical Properties of Synthetic Organic Chemicals," has just been issued by Carbide and Carbon Chemicals Corp. This 12 page booklet has been designed as a condensed guide for users of organic chemicals. It contains data on applications and physical properties for more than 175 synthetic organic chemicals. The material is presented in tabular form.

"Glycols" is the newest booklet in the group series published by Carbide and Carbon Chemicals Corp. It presents in detail the properties specifications, and uses, of ethylene glycol, diethylene glycol, "Kromfax" solvent (thiodiglycol), thiethylene glycol, propylene glycol, dipropylene glycol and ethylhexanediol. Thirty charts are included to give information on physical constants, comparative evaporation rates, and solubility.



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Harold Hutchins says . . .

SOMETHING NEW—OR IS IT?

A firm doing business in men's toilet goods may be interested in fostering disposable caps for men, to be put on the scalp before trying on hats in retail stores. The idea is from the fertile imagination of Herman Goodman, M.D., with the following argument. After all, nearly every man today buys a used hat! Of course, they do! The hat bought by you and me is one worn for sometime, however brief, by one or more prospective purchasers prior to the final sale. The idea advanced will (1) Draw attention to a good feature on your part. (2) Will detract from sales techniques of other firms. (3) Will add prestige to your firm. (4) Offer a hygienic measure to the fastidious shopper. (5) Be the basis of favorable news and other publicity articles. (6) Be a source of revision of sanitary codes of health departments. (7) Cost little money to exploit. (8) Enhance your present advertising. (9) Bring more people into your store. A manufacturer of men's toiletries who might sponsor this idea could supply these disposable caps, with some simple advertising matter, at cost or less than cost. It would be something like the method used in selling advertising on match covers, according to Dr. Goodman. So, here is something new, or is it?

FORECASTS GOOD SALES

A recent report published by Standard and Poor's Corp. indicates that the business of most leading drug manufacturers will be relatively well maintained, and drug and cosmetic sales are expected to be good. Although the volume of the more expensive cosmetics have declined an estimated 25 per cent, and may continue depressed, the survey adds, the lower and medium priced lines should hold up well. Also, a large foreign demand for American drugs and chemicals is expected. Foreseeing a probable downtrend in commodity prices, in the latter half of the year, the report predicts "reduction in manufacturing costs from recent peaks, and operating spreads for the full year should not be down greatly." Sales of razors and razor blades probably will decline, according to the report.

VENDING MACHINE COSMETICS

A tremendous boom in vending machines, which would dispense everything from lipsticks and drug sundries to firewood and picnic box lunches, is predicted by the Office of Small Business. Drug stores which close early may find in them a way to increase sales. In England, where the machines already have a widespread usage, some drug stores that close early use these vending machines at closing time, stationing them outside to service the late-comers with a variety of merchandise—perfume, lipstick and assorted drug sundries, in addition to the usual chocolates and jellied candies.

DENTIFRICES IN A BIG WAY

An American Home reader-consumer panel has revealed that large size of dentifrices are preferred by 75 per cent of those reporting. Medium sizes were favored by 22 per cent.

DRUG STORES PUSH BEAUTY

Drug stores have made substantial gains, in some cases as much as 23 per cent over a period of the past 6 years, as the favorite place of purchase for beauty preparations, it has been recently pointed out by a Fawcett Beauty Reader Forum in its 6-year summary surveys.

GOOD READING

We cannot but help mention the two books which the late Victor Robinson completed, prior to his so untimely death. "Victory Over Pain" was one of them—a history of anesthesia, and "White Caps," the story of nursing, was the second. Preparing them, to meet a deadline, may have hastened the passing of one of the few, very full-time professional medical historians of the United States.

INDEPENDENT SALES LEAD

According to a report issued by the Department of Commerce, retail drug store sales for 1946 totalled $3,573 billion, representing an 18 per cent increase over those of 1945. While the increase for the chains was the same, independent stores accounted for 76.7 per cent of the volume.

CONTROLS EXTENDED

Congress has passed and the President has approved the Second Decontrol Act of 1947 which, among other things, continues all allocation controls over tin and quinine acquired from any government agency. It also continues the control over the imports and exports of fats and oils.

ONE-LANE TRAFFIC

The majority of all drug store customers, 76 per cent, confine their movements to one single traffic lane in a drug store, the Colgate-Palmolive-Peet Co. has recently ascertained in a study of 608 drug stores. According to Colgate, of 36,416 customers checked, 27,588 walked down the natural traffic lane in each store. All 48 States were covered in the survey and the actions of 36,416 customers were analyzed. The survey findings showed that— the natural traffic lane is a "jack-pot area" in which additional sales may be made.

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WILL PERSONALLY HELP YOU UTILIZE THESE THREE SOURCES OF OUTSTANDING RAW MATERIAL AND ENABLE YOU TO DEVELOP MODERN PERFUMES OF BEST QUALITY AND HIGHEST SALES APPEAL.

COSMETIC SALES UP

Sales of cosmetics and toilet goods in 1947 will rise above the total record of 1946, continuing a 10-year trend of increases year after year, it was recently agreed by a panel of experts of the Cosmetic Division of the Fashion Group, Inc. There is every possible evidence that the American cosmetic market has not yet reached the end of its absorptive capacity.

WE WONDER

Do you think the time will ever come when the people with the know-how in the cosmetic business will see eye-to-eye and produce a textbook on the subject? We have in mind something like the Integrated Practice of Medicine, or the Systems, once so popular. The works, in other words, would cover everything from the raw materials to the application.

THE MALE BEAUTY

American men spent one-fourth as much in 1946 to be handsome as did American women to be beautiful. The results of Eversharp's survey show that the men spent $212 million at retail with similar intent. The largest item, $112.8 million went for razors and blades, by 46 million shavers. Packaged toiletries for men in 1946 totaled $55 million, while shaving creams totaled $25 million. After-shave lotions amounted to $9 million, lather brushes hit $6.6 million, talcum was $2.2 million, with styptic pencils and razor straps accounting for another $1 million.

ULTRASONICS

High frequency sound vibrations, or ultrasonics, are drawing increasing attention from the manufacturers of drugs and cosmetics, as well as from other manufacturers for possible use in the manufacture of vaccines, soap, glue, ammonia, various animal by-products, vegetable oils, malt products and surgical equipment. Bacteria, insects and small animals can be killed by application of ultrasonic waves. A possible application is the sterilization of liquid medicinals without heat. Ultrasonic waves can transform immiscible liquids, such as oils and water, or water and mercury, into stable solutions.

ROTATE MERCHANDISE

Some products move faster in certain locations of stores than in others. A rotation of merchandise will uncover these "hot-spots" in a store. Open-displays help with most items and prices always should be plainly marked on items displayed. There are many ways in which a store can be rearranged to force store traffic past more items and give customers more time and space in which to inspect merchandise. Various store arrangements should be tried, until the most-productive one is found, which should be regularly used thereafter.

TEEN-AGE MARKET

A poll of 33,896 high school students, conducted through more than 1500 high school newspapers, reveals facts concerning their recreation and entertainment habits. Eighty-one per cent attended movies regularly, 71 per cent are regular radio program listeners, only slightly more than 50 per cent read for recreation or entertainment. Important to advertisers is the fact that 70 per cent of those specifying a watch "as something they wanted to buy" named a brand revealing definite brand consciousness. The average weekly earnings for all boys and girls surveyed were $3.98 a week. Of those receiving a spending allowance, the boys get an average of $2.64 a week and the girls receive $2.43. Annually, they spend an average of $7.80 for books and magazines, $8.84 for candy and peanuts, $27.00 for the movies, $9.10 for recordings, and $7.80 for soft drinks.

CALLS FOR MORE RESEARCH

Intensified research by Sterling Drug, Inc., not only to develop new products, but also in fields of marketing, finance foreign trade, management and production, was advocated at the recent annual combined meeting of the company's standing committees. James Hill, Jr., president of Sterling, stated that competition for the drug sales dollar was definitely increasing, while the break-even point of business had risen considerably.

FORBIDS COSMETICS IMPORTS

The Mexican government has temporarily suspended the importation into Mexico of certain goods, including cosmetics, regarded as non-essential in order to check the heavy drain upon the Mexican reserves of foreign exchange by continued heavy imports. The embargo, reports the National Beauty and Barber Manufacturers' Association, covers cosmetics, perfumed or non-perfumed, cases or sets of all kinds, with perfumery articles, even if they contain soaps.

FIGHT COSMETIC EXCISE TAX

Rep. Gearhart, Republican of California, has introduced H.R. 4287 which completely repeals the retailers' excise tax on cosmetics. The bill has been referred to the Ways and Means Committee of which Mr. Gearhart is a member. The Committee has requested a report on this bill from the Treasury Department. The Ways and Means Committee, we are informed by Jacob Reck, noted Washington cosmetic attorney, will return to the Capitol in November to start writing a revision of the tax laws and at that time it is expected to consider the bill. Last June, we are informed, Chairman Knudson is reported to have stated that the most that could be expected for the cosmetic excise tax was a return to the prewar rate of 10 per cent. However, there is said to be some sentiment among Committee members to wipe out the entire excise tax on cosmetics. At the request of the National Association of Retail Druggists, Rep. Gearhart also has introduced H.R. 4288, which repeals the retailers' excise tax on cosmetics and substitutes for it a manufacturers' excise tax of 10 per cent. The bill has been referred to the Ways and Means Committee, as was done with H.R. 4287. If enacted, beauty and barber shops would no longer have to file Certificates of Purchase for Resale nor collect and report the tax. All collections and reporting would be done by the manufacturer or the importer. There is reported to be considerable sentiment for the manufacturers' excise taxes, since they are easier to collect and easier to enforce. The druggists, says Counsel Reck, will "plug" for this bill, if they cannot get a complete elimination of the excise tax on cosmetics.

MORE DOCTORS

The number of doctors in the country increased by 3601 in 1946, according to the *Journal of the American Medical Association*. A total of 6959 new doctors were licensed during that year; 3358 were removed by death or were temporarily located in foreign countries.

NEW SYNTHETIC DETERGENT

A new synthetic detergent, the result of more than four years' research by Monsanto Chemical Co. and the Westinghouse Electric Appliance Division, has been introduced nationally for users of automatic home washers. The new detergent is called "ALL." It works equally well in soft or hard water and requires no water softener.

Ph. Chaleyer Inc.

160 EAST 56th STREET—NEW YORK, N. Y.

PLAZA 3-8618

PERFUME CREATIONS

ESSENTIAL OILS

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SOLE MANUFACTURERS IN THE U.S.A. FOR:

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Creators of French Perfumes

PLASTICS INDUSTRY TO GROW

The United States plastics industry will continue its phenomenal growth for at least another five years, Dr. N. N. T. Samaras, director of Monsanto's plastics research, told the XIth International Congress of Pure and Applied Chemistry, meeting in London, last month. "We can estimate that at least 50 million dollars has been spent in the United States on synthetic resin research since 1939, and the number of technically trained specialists engaged in this field has trebled in the last eight years," he added.

NEW TRADE MARK ACT

The Patent Office is now accepting applications for registration under the new Trade Mark Act (Lanham Act) which became effective July 5. Applications that were deposited with the Patent Office prior to the effective date of the act were given a July 5, 1947, filing date. The Lanham Act provides, among other things, the first time that under certain well defined conditions, a registered trade mark may, after a period of five years' continued use, become incontestable. In other words, after the five-year registration period, the registration certificate may become conclusive evidence of the registrant's ownership of the mark and of his high to its exclusive use.

MORE ABOUT SANTOCEL

Chemically, Santocel is 6 per cent SiO_2 (silica) and 94 per cent air. Physically, it is a fine, free-flowing white powder, or it may be composed of irregular lumps up to one-half inch in diameter. Practically, it is reported to be the most efficient insulation known, being twice as good as other common insulation material. It was conceived in 1931 by Dr. S. S. Kistler of the University of Illinois, and was immediately acquired by the Monsanto Chemical Co. for development principally as an insulant.

ALCOHOL FROM SAWDUST

Alcohol made from sawdust has been developed in the first plant of its kind in Springfield, Ore. It's reported to be "fit to drink," but industrial users will get it. The process is based on a German patent.

STRAIGHT HAIR

Eighty per cent of American women are born with straight hair, according to a survey made by beauty experts. The FWDA News Capsule, which reported the study, further states that most women want curly hair, and that accounts for the constant volume in hair waving processes and preparations.

INTRODUCE MINIATURES

"Schiaparelli Miniatures," small reproductions of Shocking, Sleeping and Salut bottles, each containing a dram of the perfume, are available for immediate delivery. A "Suit Yourself" box, holding the three Schiaparelli Miniatures, will be ready for delivery in September and will retail for $8.50.

LEVER BUYS AYER

Lever Brothers Co. has acquired the entire capital stock of Harriet Hubbard Ayer, Inc. A subsidiary corporation, Harriet Hubbard Ayer Laboratories, Inc., also was acquired by Lever Brothers. The cosmetic company will operate as a separate unit from Lever Brothers, under the direction of Ralph P. Lewis, formerly an executive of Elizabeth Arden, who recently resigned his Arden post to become president of the new Lever Brothers' acquisition.

GRANTS TO UNIVERSITIES

Seven research grants to five different universities were announced recently by Dr. Melville Sahyun, vice-president in charge of research of the Frederick Stearns & Co., Division of Sterling Drug, Inc. The grants provide for pharmacological, therapeutic, and organic chemistry investigations in antispasmodic, antiasthmatic, analeptic, analgesic and anesthetic compounds, as well as pharmacological research on sympathomimetic amines.

PLASTICS MOLDERS GUILD

Plans for a broader and more comprehensive program were discussed at a recent meeting of the Plastics Molders Guild at the Hotel Vanderbilt in line with its pledge to finer public service. These molders look at plastics not as an ersatz, or substitute for wood, glass, steel, cloth, paper and other time-accepted materials, but as a substance which has a definite part to play in the future economics of the country and the world. Through comparison of methods, techniques and types of plastics used, these seven forward-thinking molders feel that better plastic products can be brought to the consumer at a fair price. A Seal of Approval, denoting performance, integrity and economy has been developed by the Guild for use by its members.

TO STUDY NUTRITION

Four grants-in-aid amounting to $32,800 were voted by the National Vitamin Foundation, Inc., for nutritional studies, according to Dr. Robert S. Goodhart, scientific director. Awards were approved by the Board of Governors, of which Dr. Theodore G. Klumpp, president of Winthrop Chemical Co., Inc., is chairman. Additional financial grants will be announced at the Foundation's semi-annual fall meeting.

FRAGRANT BREEZE HERE AGAIN

The first shipment of Rigaud's Un Air Enbaume (Fragrant Breeze) recently arrived via Trans-Atlantic plane from France, marking the beginning of regular shipments to the U. S. Because of its 50 rare components, it has taken longer for this perfume to return to America.

POINT-OF-SALE ADS

Point-of-sale advertising displays for five "medicine cabinet specialties" are now being distributed to retail drug stores by Frederick Stearns & Co., Division of Sterling Drug, Inc. One three-unit display covers all five of the products.

SHIFTS FINANCIAL UNITS

Some of the functions of the financial offices which Sterling Drug maintains in Wheeling, W. Va., are being shifted to the corporation's headquarters office, 170 Varick Street, New York, N. Y., effective about Sept. 15.

REDUCE PERFUME PRICES

Effective immediately, Dana Perfumes announces a reduction of approximately 20 per cent in the wholesale and retail prices of its perfumes and colognes. The step is taken, it is said, in accord with President Truman's recent statement, among others, that lowered prices are necessary to create consumer buying power and effect a sound economy. According to the announcement made to the trade by J. L. Younghusband, head of the firm, it is believed that in the case of Dana, it will have a marked effect on women purchasers, resulting in a greatly increased volume for retail stores, as well as for manufacturers. Before the adoption of the policy, it was presented to representative store accounts who approved enthusiastically. In spite of the fact that costs of raw materials and production have not nearly returned to prewar prices and have no prospect of doing so, Dana's new price schedule is now roughly back to normal peacetime levels.

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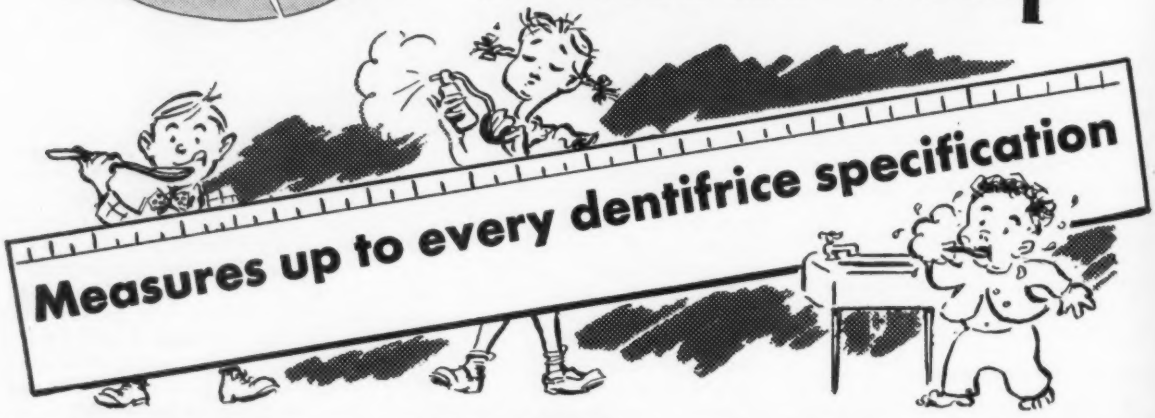

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Modern production methods and close selling margins make it possible for you to buy standardized, air-floated POWCO BRAND Pulverized Neutral Soap to suit your needs of better quality at a saving. Write today for your generous sample stating the use for which intended.

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CAPACITY AUDIENCE

Over 500 reservations have been received for the Annual Board of Trade "Business Speaks" Dinner to be held in the Grand Ballroom of the Waldorf-Astoria Hotel on October 23, 1947. Earl O. Shreve, president of the Chamber of Commerce of the United States, will be the chief spokesman for business and Mayor William O'Dwyer will also be a guest of honor and speaker and it is expected that the Governor will be present or represented. H. L. Brooks, president of the Board, explaining the purpose of the occasion, stated that once a year the "Voice of Business" should be raised, not merely through committees, nor selected spokesmen, but by businessmen themselves. The Board's Annual "Business Speaks" Dinner provides such an occasion, where executives will assemble, and by their presence indicate that they wish the traditional principles of American Private Enterprise maintained and defended.

FISCAL POLICY

The Congress, through its Ways and Means Committee, has entered upon a thorough study of Federal taxation. The members of this Committee are fully aware that the budget is the key to tax reduction. The cardinal fiscal requirement is that there must be no more additions to the public debt because of peacetime deficits, and that there must be a consistent policy of debt reduction through the provision of current revenue sufficient to assure a surplus for this purpose. Both Federal taxes and Federal expenditures should be directly related to the needs of a healthy national economy. Tax planning must occur within the budget framework.

VARIETY STORE DIRECTORY

Syndicate Store Merchandiser has released the first edition of its new all-inclusive Directory of the Variety Store Market, comprising seven individual lists covering every important phase of business activity in the Variety field. Copies are available at $7.50, at the publisher's office.

NEW HAIR PRICES

Joseph Fleischer has created a series of "pin-on-girl" hair pieces that are said to be pretty as pictures, yet popularly priced for the average person. For people with serious hair problems, after effects of illness, unhealthy conditions resulting from careless permanents and dyeing, such fashion hair pieces are obviously essential, says Mr. Fleischer. But this season, above all, they have a special style significance that's part of the vogue for short hair, which is pretty with sport clothes and casual daytime wear, but come evening is when "pin-on-girl" pieces are designed to impart glamour.

"BRIGHT RED"

Guerlain, Inc., has introduced a new shade of lipstick, called "Bright Red." The manufacturer describes it as "clear and scintilatting as a gem, and as lasting. It matches the vividness of a summer's day, illuminates the shadows of night." Guerlain also has introduced a new two-thirds of an ounce size of Jicky Perfume, at $6.50. It was Jicky that brought world-wide renown to the Guerlains, now in their third and fourth generation.

DRUG FIELD PROBLEMS

A dearth of trained personnel, plus the need to modernize retail drug stores, constitute the most serious problems facing the pharmaceutical industry today, stated E. Allen Newcomb, executive secretary of the National Wholesale Druggists' Association, in a recent meeting of wholesale druggists from the upper Mississippi Valley, meeting at the Palmer House in Chicago. Blaming the shortsightedness of those who did not provide "adequate exemptions" during the war for young men and women studying pharmaceutical subjects, the speaker stressed the shortage of specialists in this field.

HAIR WAVE DANGER SLIGHT

Allergic properties of the thioglycollates are appraised as "low and non-existent" by Dr. Carey P. McCord, who has recently published parts of an extensive investigation of hairwaving materials of this type. No manipulation of cold wave materials likely to occur either in the beauty shop or the home would give rise to sufficient quantities of hydrogen sulphide to warrant apprehension as to systemic disease, is another important conclusion from Dr. McCord's study.

$3,000,000 LABORATORY

Construction of a new laboratory for the Sterling-Winthrop Institute at East Greenbush, N. Y., will start immediately, as a result of an agreement recently reached between The Mutual Life Insurance Co. and Sterling Drug, Inc. The development, costing about $3,000,000, will be completed within the next 14 months.

THE WINNERS

Winners in the Coty Emeraude Window Display Contest, in which window display directors throughout the country competed for more than $1,000 in cash prizes, have been announced as the following—Leslie D. Slack of Wurzburg's, Grand Rapids, Mich., first prize of $500; Elizabeth Dowdy of J. N. Adams Co., Niagara Falls, N. Y., second prize of $300; Merrill Fenner of H. Liebes & Co., San Francisco, Calif., third prize of $200. Honorable mention and prizes of $50.00 went to Charles Ellis of McCurdy & Co. of Rochester, N. Y.; Leo Rauch of Buffum's, Long Beach, Calif.; and George M. Allen of Kastner-Knott Co., Nashville, Tenn.

BACK-TO-COLLEGE BAG

Mary Chess introduces a new Back-to-College Bag, made of airplane cloth and trimmed in genuine leather, which contains seven Mary Chess preparations that have been carefully selected with an eye toward the tastes of this age group. The case, complete with products, sells at $27.50.

PURELY PERSONAL

LILLIAN HENLEY has joined Dermetics' staff of beauty consultants and will cover the drug and department store field.

ROBERT P. FRANK has been named sales manager of the Little Rock Division of the Visking Corp., manufacturers of Viskon, a non-woven fabric used in machineless permanent wave pads.

M. M. RICKETTS, formerly general sales manager of ethical and proprietary operations of William R. Warner & Co., has been named vice president in charge of sales of Nyal Co. and the Jamieson Pharmacal Co., both owned by Heyden Chemical Corp.

ROBERT R. ACKLEY has recently joined Richard Hudnut as Director of Research, according to a recent announcement by C. A. Pennock, President of Hudnut Sales Co. Mr. Ackley was formerly the director of the industrial division of the Onyx Oil & Chemical Co. He will work under the direction of Raymond E. Reed, Director of all cosmetic research and development activities of the William Warner-Richard Hudnut Co.

FRANK G. McMANN, well known in the cosmetic field for the past 25 years, has joined the Alexandra de Markoff sales organization and will cover the Middle West territory.

KOMMON SCENTS!

Most interesting talk these days concerns a Third Party. To this observer a Third Party on a national basis makes as much sense as giving a third wife to a eunuch.

•

Biggest beneficiaries of a Third Party would be printers and manufacturers of campaign buttons. The nation as a whole would benefit only to the extent of learning Henry Wallace's official status as a Democrat.

•

As members of the same party, Wallace and the President can't see eye to eye without spitting. The only thing they appear to have in common is a history as ex-Vice-Presidents.

•

Ironically, a stronger Third Party could be made up of Americans who dislike them both. And we're even exempting Republicans.

•

While we're on the subject of Republicans, their most likely candidate for the Presidency seems to be Governor Thomas Dewey. Tom's chief claims to fame: He balanced New York's budgets; straddled the nation's issues and never vacillated where he could equivocate.

•

Dewey has less to say than any Republican since Coolidge. And he makes a national tour to say it.

•

Senator Taft appears to have eliminated himself as a candidate through co-authorship of the Taft-Hartley Act. He is now as popular in Labor circles as Ernest Bevin in Tel Aviv.

•

Repeatedly irked by both outfits, we can understand the temptation to form a Third Party. But in practice it figures to be as effective as scissors on a pair of pants when a needle and thread are needed.

•

Our own industry, of course, will continue to take the lofty view of things political: "Comes election time, it's the same old odors with a new packaging job."

George Fiedler

KELTON

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PURE, WHITE AND UNIFORM

BECAUSE IT'S

sunbleached

Still using the same "old fashioned" methods proven successful for 95 years.

That's how long we've been bleaching beeswax since we first began operations in Holland in 1852.

Preference for high quality today is as strong as it was then.

That's why our customers would not think of letting us change production methods to gain "speed."

This same high quality extends through our entire line:

U.S.P. Pure *Sunbleached* Beeswax
U.S.P. Pure Yellow Refined Beeswax
Ozokerite Ceresine
Micro Crystalline Petroleum Waxes
Special Wax Blends

KOSTER KEUNEN

★

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THE ROUND TABLE –

$50 Million for Hair Preparations

In 1945, Americans spent more than $50 million for shampoos, hair tonics and related products, according to an article in the July issue of *Domestic Commerce*. A trade breakdown of the 1945 retail sales places shampoos at the top of the list with a volume of $29,106,000. Tonics come second with sales totaling $20,025,000. Sales of related products reached $4,900,000. The 1945 total of $54,031,000 compares with $44,421,000 the year before.

Mexico Bars Toilet Goods Imports

Mexico has suspended the importation of toilet goods to halt the drain upon its reserve of foreign exchange. It is understood that the order is of a temporary nature. Even those firms who manufacture locally are affected as the rate of duty has been increased upon essential oils.

Entomology Fellowship To Be Continued

The continuation of the annual fellowship in the University of Delaware's Department of Entomology was announced recently by G. L. Schuster, director of the University's Agricultural Experimental Station. The fellowship carries a $10,000 grant. Work on the fellowship, which is sponsored by Hercules Powder Co., will be directed by Dr. L. A. Stearns.

Chemical Engineering Economy Course at Brooklyn Polytechnic

The graduate course "Chemical Engineering Economy" will again be offered during the first semester at the Polytechnic Institute of Brooklyn, N. Y. It will consist of a fifteen lecture symposium given Wednesday evenings from 8:00 to 10:00 P. M.

The course will include topics such as the preparation of economic surveys and appraisals; plant location: cost analysis and estimates; as well as the interrelation between the problems of business administration and the functions of technical research and production.

The course is under the direction of Dr. Robert S. Aries.

Arch Payne Becomes Sales Manager for Florasynth

Arch Payne has been appointed general sales manager of Florasynth Laboratories, Inc., New York, N. Y.

Arch Payne

Mr. Payne will work closely with William Lakritz, president; Charles P. Kramer, secretary; Joseph H. Fein, treasurer, and David Lakritz, vice-president, respectively, of the organization. He will make his headquarters in the home office.

The new general sales manager has been with Florasynth for some time in charge of sales and other operations in the South and Southwest, with offices in Dallas, Texas. It is expected that Mr. Payne will begin his new operations by sectional meetings and gradually enlarge these to encompass the complete national and international activities of Florasynth.

Ralph Bienfang Contributes To Medical Physics

Ralph Bienfang, professor of pharmacy, University of Oklahoma, and author of "The Subtle Sense," has been invited by Dr. Otto Glasser, Cleveland Clinic, to contribute again to Medical Physics, soon to be brought out in a second edition by Yearbook Publishers, Chicago, Ill.

N.Y.U. Offers Course In Aromatics

New York University is offering a course in the evaluation and olfactory testing of perfumes. It is intended as a practical laboratory class for commercial purchasers, salesmen and others using essential oils. Several materials will be used for basic training of the sense of smell. Standards of comparison will be established through study of odor types. Threshold values and blotter tests will be developed. Requirements of special purpose perfumes will be considered, as well as the influence of recently developed synthetics. Some previous experience with perfume oils is required for registrants. The instructor will be Samuel Klein.

B. T. Bush on Business and Vacation Trip to France

Burton T. Bush, founder and president of Bush Aromatics, Inc., and Bush Pan-American, Inc., New York, N. Y., flew to France Aug. 29. Most of his time will be spent in Grasse. He took canvasses, his palette and paint brushes and plans to paint some pictures of picturesque spots in the neighborhood of Grasse.

Commercial Chemical Development Association Elects Officers

The Technical Service Association of the chemical industry has been organized under the name Commercial Chemical Development Assn.

The following officers have been elected: President, Dr. L. B. Hitchcock; vice-president, L. H. Fleet; treasurer, C. D. Goodale; secretary, A. J. Fisher, Jr.; directors, Dr. W. H. Bowman, W. H. Harding, H. E. Outcault, J. J. Schaefer.

The association is concerned with the problems and marketing of new chemicals and the problems of expanding the market for manufactured chemicals.

PERFUMERS

BASIC MATERIALS

Burton Bush

BASIC

PERFUME

SPECIALTIES

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For Four Generations, Manufacturers of Distinguished Paper Boxes for Distinguished Products

Ed. Pinaud Has U. S. Sales Rights to Pinaud Toiletries

An announcement has been made that the American sales rights to Pinaud Toiletries have been taken over by Ed. Pinaud, Inc. The essences will continue to be compounded in France and imported to be bottled and distributed by the American company. The new plant and warehouse are at 1041 Prospect Ave., Bronx, N. Y. Sales offices are located at 902 Broadway, New York, N. Y.

Pierre A. Coblentz will continue as vice-president and general manager. Herbert D. Rosenthal, vice-president, will continue as sales manager. Other officers are Joseph Lindemann, president, and Louis Naidech, treasurer.

Robert H. Swindell Now President of Swindell Brothers, Inc.

Robert H. Swindell, great grandson of one of the founders of Swindell Brothers Inc., Baltimore, Md., was elected president of the corporation by the directors July 15. Prior to his election Mr. Swindell was secretary and a member of the board of directors. He has been associated with the company since 1930.

At the same time Joseph B. Scott, vice-president, sales manager and a director was advanced to general manager. In addition to his new duties Mr. Scott will continue to direct sales.

John J. Jeffries, vice-president and a director, will continue in charge of finance, taxes, insurance and labor

Robert H. Swindell

Joseph B. Scott

relations. Walter S. Nuckols, manager of the New York office and a director, has been elected vice-president. Robert B. Hamill, controller, has been elected secretary and treasurer.

Swindell Brothers, Inc. is one of the oldest manufacturers of glass containers in the United States, having been organized in 1873.

Arthur Irish Co., Ltd., Vancouver, B.C. Represents Dr. Alexander Katz & Co.

Dr. Alexander Katz & Co., Essential Aromatics has resumed the operation of its office at 325 Howe Street, Vancouver, B. C., under the management of Arthur Irish and Harold Irish, of Arthur Irish Co., Ltd. A complete stock of flavoring and perfume materials is now being carried at the above address. Arthur Irish has resigned as manager of the Vancouver branch of another company to resume his connections with Dr. Katz. Mr. Irish is well known throughout Canada, and during the war held the office of Administrator of Spices, Tea and Coffee. At the present time, and until the Eastern Canadian offices of Dr. Alexander Katz & Co. are formed, all materials are being prepaid from Vancouver to destination in Canada.

Henry Wiedman Resigns as Vice-President of P. R. Dreyer, Inc.

Henry A. Wiedman resigned August 8 as vice-president of P. R. Dreyer, Inc., New York, N. Y., with whom he had been connected for the past 12 years. All told he has been identified with the chemical and essential oil industry for 30 years.

INTERESTED IN PETROHOL?

Along with most other chemicals, PETROHOL isopropyl alcohol (91%) is now in a better supply position so that limited quantities are available. If you can use this dependable, high-quality material . . . noted for purity and uniformity . . . write for samples and further information.

ENJAY COMPANY, INC. *(Formerly Standard Alcohol Company)*

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Midwest Division: **221 NORTH LaSALLE STREET, CHICAGO 1, ILL.**

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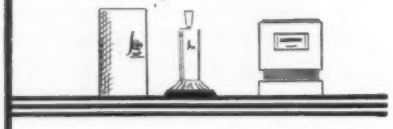
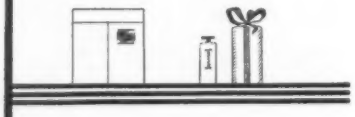


cosmetic container



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Manufacturers of Quality Raw Materials
For Perfumery For Over 100 Years

Mary Neary of Fritzsche Firm Celebrates 35th Anniversary

Mary G. Neary, secretary to President F. H. Leonhardt, Fritzsche Brothers, Inc., New York, N. Y., was the guest of honor at a luncheon held July 15 in celebration of her 35th anniversary with the firm. Miss Neary was the recipient of many good wishes, not the least of which was that from the firm's employees who presented her with a handsome gold wrist watch, with gold dress clips to match as a token of their high esteem and deep affection.

Mary G. Neary

Penick & Co. Establishes a Number of Research Grants

The establishment of five research grants and the extension of a sixth has been announced by S. B. Penick & Co., New York, N. Y.

A grant has been made to the University of Illinois, where a fellowship for the study of compounds for vegetable sources or of therapeutic agents will be established under the direction of Dr. Roger Adams of the Department of Chemistry. Similar fellowships in the Department of Chemistry at the University of Wisconsin, under the direction of Dr. S. M. McElvain, and at the University of California at Los Angeles under the direction of Drs. William G. Young and T. A. Geissman, were also announced.

A grant was made to the Department of Pharmacology of Harvard University, School of Medicine, where Dr. Otto Krayer will study the pharmacological action of certain botanical specimens of South American origin.

For the study of Vitamin P-like substances and their effect upon the animal organisms, a grant was made to Drs. E. M. MacKay and William G. Clark of the Research Department of Scripps Metabolic Clinic, La Jolla, Calif.

The grant to the University of Michigan for the study of the therapeutic value of mixed estrogens from natural sources administered to the intact skin as an inunction, which is being done under the direction of Dr. E. C. Pliske, has been extended to Jan. 1, 1948.

George White Becomes Branch Manager for Innis, Speiden & Co.

George A. White, who has been a sales representative in Cincinnati for Innis, Speiden & Co., 117 Liberty St., New York, N. Y. since Nov. 1946, has been made manager of the company's branch office in that city. Mr. White joined Innis, Speiden in 1941 and was assigned to do inside sales promotion in the New York office. In 1943, he sold company products in Western New York State and part of Metropolitan New York City. He continued to service these territories until he was transferred to Cincinnati last year.

George A. White

R. Righton Webb on Hurried Flight to England and Continent

R. Righton Webb left Aug. 1 by plane for a hurried trip to England and the Continent and expects to be back at his desk before the end of the month.

PLYMOUTH WAXES *for* CREAMS

This Spermaceti should not be confused with inferior hydrogenated sperm oils which are sometimes offered as Spermaceti The Plymouth Brand is the finest which can be produced and is produced from Genuine Sperm Oil by the cold pressing method. It is a very white crystalline wax containing no free oil, has a very low Iodine number and is free of any offensive odors.

PLYMOUTH Ozokerites

We offer two grades One is the highest quality obtainable, 76°-78° C melting point and the other grade lower in price and of lower melting point 66°-68° C. Both are guaranteed 100% Pure Bleached Ozokerites.

PLYMOUTH Sun-bleached White Beeswax U. S. P.

This is guaranteed to be a 100% Pure Beeswax and sun-bleached It is refined by the centrifugal method which removes all and every trace of foreign matter We will gladly send samples.

PLYMOUTH White Cirine Wax

A special grade of White Ceresin Wax prepared for the cosmetic trade Absolutely white and odorless. It has a melting point corresponding to that of Beeswax so that in using it in connection with Beeswax in cream any "lumpiness" is avoided. Its use will also produce a very glossy cream.

We offer all grades of the U S.P fully-refined Paraffin Waxes.

A COMPLETE LINE OF COSMETIC RAW MATERIALS

M. W. PARSONS

Imports

and PLYMOUTH ORGANIC LABORATORIES, Inc.

Standard

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QUALITY TUBES

Standard

SPECIALTY & TUBE CO.

New Brighton, Pa.

ALRO

WATER SOFTENER A

(A Water Softener)

STABLE IN SOLUTION

Recommended for liquid soaps and shampoos

This new organic sequestering agent:

1. Enhances foaming in soft water.
2. Prevents lime soap precipitation in hard water.
3. Improves rinsing properties.
4. Clarifies shampoos to which it is added.
5. Often eliminates the necessity for filtration.
6. Remains stable in aqueous solution.
7. Does not cloud or precipitate even after long standing.

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WETTING AGENTS • EMULSIFIERS • PENETRANTS • FOAMERS • DISPERSANTS • QUATERNARY AMMONIUM COMPOUNDS • TEXTILE CHEMICALS • METAL FINISHES • SPECIALTIES

Dodge & Olcott, Inc., has moved to its new branch headquarters in Los Angeles at 908 South Olive St. R. Eliot Fernald, branch manager, has seen to it that the decoration of the office is one which invites restful and relaxed business transactions.

When Mr. Fernald first represented Dodge & Olcott his "office" was his home. Business developed rapidly until it became necessary for him to find a real office and to start putting together a staff. Now, with still larger quarters and better facilities for warehousing, spot deliveries will be greatly expedited. This will add measurably to D & O's currently excellent position on the Coast.

Marjori Bennett Joins Dermetics

Marjori Bennett has joined Dermetics, Inc., New York, N. Y., as assistant to the president in charge of merchandising, advertising and packaging. She was formerly merchandise manager of Primrose House in charge of advertising and packaging, and for some years was with Lehn and Fink as design director for Tussy, as well as display director for Dorothy Gray, Fifth Avenue Salon.

Norman Olsen Sales Manager Of Aluminum Seal Co.

Norman Olsen has been appointed sales manager of Aluminum Seal Co., subsidiary of the Aluminum Company of America. Mr. Olsen's headquarters are in Richmond, Ind., home office of the Aluminum Seal Co.

James Darnell Joins Bjorksten

James R. Darnell has joined Bjorksten Research Laboratories, Chicago, Ill., as assistant to the president. Mr. Darnell was educated at Carleton College, Northwestern University, and the University of Illinois. Subsequently, he was employed by the Corn Products Refining Co., and by the Pure Oil Co.

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established in 1824 in Grasse, France

importers of floral essences and essential oils

basic perfume and flavor materials

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For EASY HANDLING and POSITIVE RESULTS

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Engineered in every detail to provide maximum efficiency on your toughest filtering job. It is completely enclosed and air-tight preventing leakage or evaporation, yet permits quick, easy dismantling for cleaning. Compactness and extreme portability assures convenience and speed in handling batch filtration work in different locations.

For a dependable filtration system with low operating and maintenance cost, use an Alsop *"Sealed-Disc"* Filter. Recommended for chemicals, perfumes, cosmetic preparations, alcohol, water, etc. Sizes, with or without pumps, from 1 g.p.m. to many thousands of g.p.h. Our bulletin #745 gives complete details, we'll gladly send you a copy.

STAINLESS STEEL *"Sealed - Disc"* FILTERS

"Sealed-Disc" Filters are available in Stainless Steel, Monel Metal or Nickel Plated Brass and Bronze at surprisingly low cost.

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EFFICIENCY · R · RELIABILITY

LAVENDER "C"

• A perfectly blended fragrance, intense and interesting, for general purposes. (Trial pound $4.00.)

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THREE OTHER EXQUISITE COMPOUNDS INCLUDE . . .

CHYPRE #56
GERANIUM E-091
BOUQUET R-664

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LEMONGRASS REPLACEMENT . . .
Scientifically produced oil which possesses the character of the original at a fraction of the cost.

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806 DELAWARE ST. · KANSAS CITY 6, MO.

Code on Shampoos Requested by Fitch

The Federal Trade Commission has been requested to establish industry-wide regulations covering the scalp preparations field. The request was made by the F. W. Fitch Co., which has also asked the Commission to recall a complaint accusing the company of false advertising.

Hilary Herchelroth in Grasse France Until October 1

J. Hilary Herchelroth, head of the company that bears his name, flew to Europe Aug. 21. He will spend a month at the factory of Cresp-Martining with whom he is associated to familiarize himself with latest developments. His trip will also include a visit to Switzerland. He expects to return by Oct. 1.

Par-Busters Invade Detroit

Forty-seven "Par-Busters," the joint golf auxiliary of the Chicago Perfumery, Soap and Extract Assn. and the Chicago Drug and Chemical Assn., arrived in Detroit for the tenth inter-city meeting of the Allied Drug and Cosmetic Assn. of Michigan. The Chicago Par-Busters journeyed to and from Detroit in a special car and are reported to have acquitted themselves with honor in the various events of the day.

H. D. G. Stone Receives Service Pin

A fifteen-year service pin was presented to H. D. G. Stone, sales representative in Baltimore of National Starch Products, Inc., New York, N. Y., and its National Adhesives Division, at a conference of the company's Eastern sales staffs held recently.

Phyllis Crane Assists Matchabelli Sales Manager

Phyllis Crane, sales representative for Prince Matchabelli, has taken over new duties in the company's New York office, assisting Paul W. Pearson, sales manager. Miss Crane will, however, continue to visit accounts in Philadelphia, Baltimore and Washington.

Edward R. Welsh has recently joined Prince Matchabelli as a sales representative. He is calling on New York City department store accounts.

Key Personnel Appointments By Kimble Glass

K. M. Henry, chief engineer of the Engineering, Research and Development Division of Kimble Glass, has announced the appointment of the following key members to his staff: F. D. Pinotti, former assistant to Mr. Henry, assistant chief engineer; J. B. Shimer, former manager of factory administration of the Libby Glass plant, production manager of electronics and industrial ware; Dr. H. B. Vincent, former manager of product development for Libby Glass, director of product development; H. R. Black, former chief chemist, director of glass technology. The Engineering, Research and Development Division of Kimble Glass will operate the new Dorr-Westwood Plant in Toledo, Ohio.

Ralph Olson Manager of Penick's Chicago Office

S. B. Penick & Co., New York, N. Y., has announced the appointment of Ralph Olson as manager of its Chicago branch. Mr. Olson succeeds Harold Meyer, vice-president, who has been transferred to the executive staff of the home office.

CODAN

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SELECTED FRENCH LAVENDER OILS

32/34% — 38/40% — 41/44%

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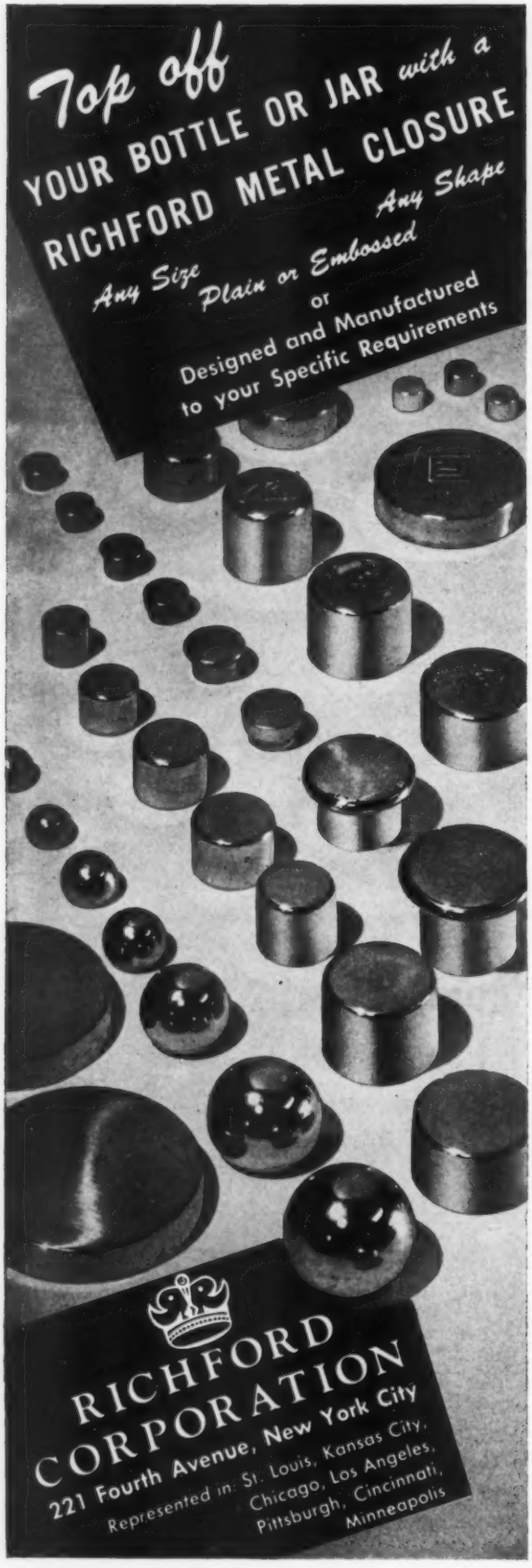
DIRECT CONNECTION WITH THE BELGIAN CONGO SINCE 1893

"QUALITY MERCHANDISE GUARANTEED BY REPUTATION"



HILARY SAYS:

FUNNY Things—come out of little bottles—and out of tubes. Alcohol had its well-known habitat in The Little Brown Jug (Now: in "Fifths"—with the same results). A horse from an entirely different-colored garage is Tuberic Alcohol — economical in its use (only small percentages are needed), it is an excellent blender in almost any floral, particularly in Gardenia and Jasmin.

TUBERIC Alcohol is now being added to the Cresp-Martinenq Family here in America, where it is made strictly according to the formula of Cresp-Martinenq (Grasse, France)—and as, therefore, the exorbitant duties on it are avoided, here's a price which even an awful lot of windowshopping won't help you beat:

TUBERIC ALCOHOL.....$16.00 per pound

(You'll not only like the price tag — you'll love the stuff!)

TO what extent will a guy go to make a delivery? (Well, Country Doctors have been known to get up after midnight to deliver the First Slap on the, as you know.)

FRANCE not only sells smells — she buys some, too. I sold some and am delivering in a hurry—so this Bone is going on a Bon Voyage. (A good trip to you, too!) Newfoundland—Ireland (with the world's best breakfast at the Shannon Airport)—and then about two hours afterward: P a r i s !

LES Tuileries, the Ritz Bar, Champs Elysées, Place de la Concorde, Arc de Triomphe—maybe you like a museum or to gaze at statues. What are you looking for in Paris? (Oh—you are—eh?!) Well—the "122 Club" is IT. (Not very expensive.) When you come in, they'll make you a Member. You'll remember. If you still want more "Cheese Cake" (I doubt it!), the cookies at the Balle Tabarin and the Follies Bergère still are not afraid of a chill and exposure. They blossom forth! A boy can't hang around The Cookie Jar forever.

FOR the blossoms and blooms around Grasse (Alpes Maritimes) I said, like a good little fellow, my nightly prayers. Last year, the new Cresp-Martinenq plant was built there, and will be in operation for the first time this year, extracting Absolutes from flowers by the volatile-solvent process.

Right here in New York, Cresp-Martinenq offers you

TUBERIC ALCOHOL.....$16.00 per pound

J. HILARY HERCHELROTH

representing

Cresp Martinenq **Established 1782** **Grasse, France**

369 Third Avenue New York 16, N. Y.

In Havana Lainz y Cia Aguiar 615

Katherine Martin Acquires Milky-Way Cosmetics

Katherine Martin, Inc., 118 East 28th St., New York, N. Y., has acquired Milky-Way Cosmetics, formerly of Michigan. Officers and directors of Katherine Martin are: Katherine Martin, president; Dr. Henry Goldschmiedt, vice-president and Helen Lind, secretary and treasurer.

Virginia Burdick Joins Helena Rubinstein

Virginia Burdick, formerly of the Fred Eldean Organization, Inc., has joined Helena Rubinstein, Inc., as assistant to Amy Blaisdell, public relations director.

International Chemical Congress

Nearly 2000 chemists from all over the world were in attendance at the 11th International Congress of Pure and Applied Chemistry, held in London, England, July 17 to 24. Official delegates appointed to the Congress by the various countries numbered 300; individual members of the Congress numbered 1600. Most strongly represented countries were Great Britain, France, Italy, the United States, Switzerland and the Scandinavian countries.

Dr. Bigelow Announces Activities For DCAT Annual Meeting

Dr. Carle M. Bigelow, Drug, Chemical and Allied Trades Section of the New York Board of Trade chairman, has announced the committees which will be in charge of the various activities at the Section's 57th Annual Meeting and Election (together with its Fall Meeting and Golf Tournament) to be held at Shawnee Inn, Shawnee-on-Delaware, Sept. 25 and 26, 1947.

Kimble Glass Organizes Customer Research Department

Organization of a Customer Research Department of Kimble Glass, a division of the Owens-Illinois Glass Co., was announced recently by Stanley J. McGiveran, general sales manager. Joseph F. Green, director of research for Kimble until it became a division of Owens-Illinois, is director of the department. The department will be developed in Vineland, N. J.

Atlas Powder Establishes Western Sales Office

Atlas Powder Co., Wilmington, Del., has established Western sales offices for its industrial chemicals department at 411 West Fifth St., Los Angeles, Calif. James H. Turner is in charge of district sales of organic chemicals, including sorbitol, mannitol and surface active agents.

Philadelphia Cosmetic Association Show

The Philadelphia Cosmetic Association will hold its annual show at the Benjamin Franklin Hotel, starting the week of Aug. 24. About fifty lines will be represented. All will be displayed on the fourth floor of the hotel.

Ernest A. Westfried Organizes the H & W Trading Co., Inc.

Ernest A. Westfried has organized the H & W Trading Co. Inc., in New York City to deal in essential oils, compounds and chemicals. Mr. Westfried is president of the company and he reports that his associate controls a successful organization in the chemical and pharmaceutical line.

OIL ORRIS ROOT LIQUID ABSOLUTE

ORRIS CONCRETE

ORRIS OLEORESIN *(Resinoid)*

Experience demonstrates that none of the substitutes for Orris are wholly satisfactory in giving the characteristic Orris note. It is therefore fortunate that these well known Bush specialties are now readily available.

W. J. BUSH & CO., Inc.

ESSENTIAL OILS . . . AROMATIC CHEMICALS . . . NATURAL FLORAL PRODUCTS

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LONDON **MITCHAM** **WIDNES**

B-W LANOLIN U.S.P.

EVENTUALLY—For better creams, with economy

B-W Lanolin the superior quality puts into your cream that which gives the skin that smooth soft velvety feeling.

B-W Lanolin will never cause your cream to darken, is best by test and contains over 15% free and combined Cholesterol.

No other base used in your cream, equals the merits of B-W Lanolin.

B-W HYDROPHIL (Absorption Base) Made in U.S.A.

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LINDEN, N. J.

America's Original Lanolin Producer
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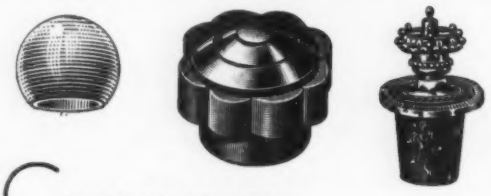

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Founded 1854

FEZANDIE & SPERRLE, Inc.
205 Fulton Street, New York City
HIGHEST STANDARD

Colors and Dyes for Cosmetics, such as

LIPSTICKS
ROUGES
FACE POWDERS
MASCARA
SOAPS
PERFUMES
LOTIONS
SHAMPOOS
CREAMS
Etc.

Your inquiries are invited

Employees Share in Trust Fund

Employees of Thomas L. Luzier, cosmetic manufacturer of Kansas City, Mo., who died recently, will share in the $1,000,000 trust fund he left. About 100 employees who have more than five years of service will receive half of the income annually from the trust fund. Eligible for part of the trust fund are 700 door-to-door distributors.

Culbreath to Distribute F. R. Cullingford Products

F. R. Cullingford, Ltd., London, England, has announced the appointment of Mildred Randolph Culbreath as distributor of its products in the United States, Mexico and Hawaii. Miss Culbreath has opened a new sales office at 55 West 42nd St., New York, N. Y.

Miriam Gibson French Promotion Director of *Charm*

Miriam Gibson French has been appointed promotion director of *Charm Magazine*, and Ruth Ann Bolway has been made assistant promotion director.

Mrs. French was previously publicity director of Shulton, Inc. She has served as chairman of the Cosmetic Division of the Fashion Group of New York and is a former member of The Advertising Women of New York. Miss Bolway was formerly publicity director for Dana Perfumes. Before that, she was publicity director for Shulton, succeeding to the post upon Mrs. French's resignation. She is a member of the Fashion Group of New York.

ASECP Ends Active Season

The American Society of European Chemists and Pharmacists has concluded its activities for the season with an address by Prof. W. G. Frankenburg on the subject of catalysis. Newly elected officers of the Society for the coming season are: President, Prof. H. Mark; Vice-president, Prof. Lieben; and Executive Vice-president, Dr. Henry Goldschmiedt.

Waldo Lossow Leaves Delettrez

Waldo Lossow, for the past six months vice-president and sales manager of Delettrez, Inc., has resigned from that organization. Before joining Delettrez, Mr. Lossow was associated with Lucien Lelong and Dana Perfumes. He has made no announcement of his future plans.

Obituary

Frances Hills

Frances Hills publicity director of Shulton, Inc., died July 8, at the LeRoy Sanitarium, New York, N. Y. She had been with Shulton since July 1946. Miss Hills had been a free lance writer for magazines prior to joining this company. She was the daughter of the late Laurence Hills, editor of the Paris edition of the New York Herald Tribune until his death in 1941.

Mrs. Richard M. Krause

Mrs. Adeline Krause, wife of the late Richard M. Krause, the pioneer American embossed label manufacturer, died August 1, following a prolonged illness. She is survived by her son Richard M. Krause, Jr., a daughter, Mrs. Muriel Rodgers and two sisters.

Manufacturers of

Aromatic Chemicals

and

Perfume Compounds

gunning and gunning inc.

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When **Toothpaste**

Needs Improved Consistency

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VEEGUM

AMERICAN PRODUCTS

VEEGUM imparts an attractive gloss, to improve appearance. Gives a consistency unaffected by ageing. Reduces "bleeding."

Literature and samples available on request

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PRODUCTION IN TONNAGE . . . .
PURITY BY THE OUNCE

THE ELABORATE PRODUCTION AND LABORATORY CONTROLS WE HAVE SET UP AFTER YEARS OF PAINSTAKING EFFORT ARE REFLECTED IN A THIOGLYCOLATE OF UNSURPASSED QUALITY. THESE SAFEGUARDS GUARANTEE YOUR FINISHED SOLUTIONS TO BE WATER WHITE, CRYSTAL CLEAR AND FREE OF DAMAGING IMPURITIES AT ALL TIMES.

OUR NEW NON-IONIC EMULSIFIER "STANTOL" IS RECOMMENDED AS A CREAMING AGENT. IT IS THE MOST EFFECTIVE AND STABLE EMULSION FOR AMMONIUM THIOGLYCOLATE NOW AVAILABLE, AND IMPARTS A SNOW WHITE, CREAMY APPEARANCE TO COLD WAVE SOLUTIONS.

Write for details and samples.

STANTON LABORATORIES

stanton laboratories, inc.
227 Krams Avenue **Philadelphia 27, Pa.**
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Fine
AROMATIC CHEMICALS
ESSENTIAL OILS
and
COMPOUNDS

Aromatics Division
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ESTABLISHED 1910 GD AROMATICS DIVISION

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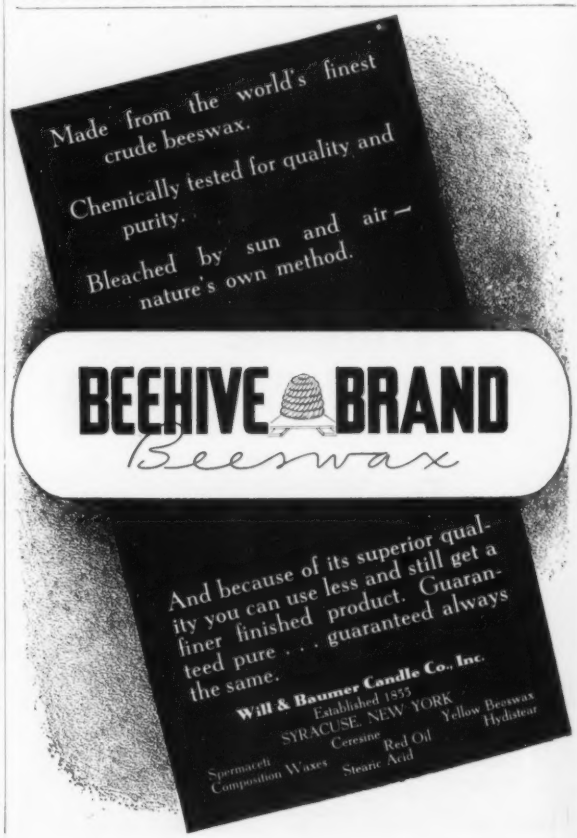
Made from the world's finest crude beeswax.
Chemically tested for quality and purity.
Bleached by sun and air — nature's own method.
BEEHIVE BRAND
Beeswax
And because of its superior quality you can use less and still get a finer finished product. Guaranteed pure . . . guaranteed always the same.
Will & Baumer Candle Co., Inc.
Established 1855
SYRACUSE, NEW YORK
Spermaceti
Composition Waxes
Ceresine
Red Oil
Stearic Acid
Yellow Beeswax
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Cyclonol is chemically 1-methyl-3-dimethyl-cyclohexanol-(5). Graphically the structural formula is given in Fig. 1. It may be considered a lower homologue of symmetric or meta Menthol which has the structural formula shown in Fig. 2.

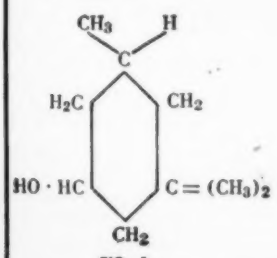

FIG. 1

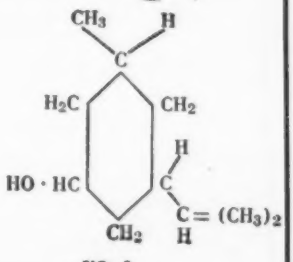

FIG. 2

Cyclonol replaces Menthol satisfactorily in shaving creams and lotions, liniments, analgesic balms, ointments and similar preparations. It has also been accepted by the U. S. Treasury Department as a Denaturant for alcohol in place of Menthol U.S.P.

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MARKET REPORT

Essential Oil Prices Continue Downward

TREND of essential oil prices continued downward over the past month, but day-to-day fluctuations were confined to fewer items. The declines that have been taking place in many of the oils might be considered readjustments that had long been overdue.

In the midst of a seasonally dull period there was an undercurrent of strength developing which could hardly be recognized on the surface. Trade observers are of the opinion that consumers who have been steadily drawing on reserve supplies in order to carry out a cautious buying policy will shortly have reduced such inventories to the point where replacements will be necessary.

Several items in the aromatic chemical group which had been slow in reflecting the downward trend in oils moved lower. Geraniol, eugenol, anethol, iso-eugenol, and linalool all moved in favor of buyers. Hydroxy citronellal and amyl cinnamic aldehyde also registered declines.

ESSENTIAL OILS FOR PERFUMES

Buying of essential oils for the account of perfumers, and proprietary manufacturers was restricted to small quantities but a reasonably good demand was reported by dealers for the account of confections and extract manufacturers serving the soft drink trade. Because of the unfavorable spring season, however, buying by extract manufacturers is not likely to run into any unusual volume over the balance of the summer. Sales to soap manufacturers may prove disappointing over the last half of the year since it is believed that soap production may fall about 20 per cent below production in the first six months of 1947. Pharmaceutical manufacturers are expected to increase their purchases, however.

Such items as anise, Ceylon citronella and lemongrass bear close watching. There were reports in the trade over the past month which indicated that prices may shortly become stabilized. When the prices of Ceylon citronella were rapidly moving downward six or eight weeks ago, about 50 per cent of the distilleries in Ceylon discontinued operations. Since that time rains have set in and production has been more seriously interrupted. Advices from India indicated that the steady downward trend in prices had definitely been checked, and that stocks were at a relatively low level. Following such reports shipping prices rose 10 to 15 per cent.

Official data released by the Department of Commerce last month showed that February imports of essential oils dropped 264,363 pounds or 36 per cent below like receipts in the previous month. Forty-four oils shown in the February import statistics disclosed that receipts of twenty-four declined from January and ten advanced, while the balance were not active in either January or February. A total of 66,471 pounds of natural camphor oil were received from Japan during January and February, compared with none from that country and 25,681 pounds from China in 1946. The report also showed that 1,560 pounds of ho oil were received from China in the first two months of this year, the first since 1940.

Seychelles patchouli oil hit an all-time low price since the war. The article was offered here at $16.50 per pound while Singapore oil was available at $35 a pound.

The situation in crude glycerin turned steadier. Producers were inclined to hold for slightly better prices despite an inactive demand. With a reasonable parity between the price of crude and the 29¼ cents per pound price of chemically pure, the market for refined material was reported to have become fairly well stabilized. The supply of glycerin which was reported as greater than for some time, will, it is believed, be reduced in the final half of this year at which time production is expected to go about 20 per cent below the level of the first half of 1947. Export inquiries over the past month indicated that there was a substantial foreign outlet for any surplus material that might accumulate in this market.

TRADE IN MENTHOL

Trade in menthol was seasonally quiet. Because of recent arrivals from China and a total of about thirty-six tons of material known to be in Japan, the spot position turned easier. In some quarters it was indicated that prices could have been shaded slightly on bids for fair size lots. The softer tone is only expected to prove temporary, however, since large consumers who normally anticipate their winter requirements in October may suddenly find that there will not be sufficient material on hand to meet the demand.

The thirty-six tons of menthol known to be in Japan would require some time to reach this country. Although private trading in that country is about to be resumed merchandise out of immediate purchases could not be expected to arrive here in time for the consuming season. Brazil has little to offer because of a poor crop, and as far as can be learned, no additional lots are in sight from China.

Considerable export inquiry was noted for stearic acid and red oil. As in the case of glycerin, however, export controls made it virtually impossible for sellers to complete orders in the absence of necessary licenses.

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14—Copper percolators, 20" to 36" dia.
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Aspic (spike) Span.	1.85@	2.00
Avocado	1.35@	1.40
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Cajeput	2.90@	3.20
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Cananga, native	7.50@	8.00
Rectified	10.00@	12.00
Caraway	5.65@	6.10
Cardamon	25.50@	26.00
Cassia, rectified, U. S. P.	3.35@	3.75
Imitation	2.10@	2.70
Cedar leaf	1.10@	1.25
U. S. P.	2.50@	2.85
Cedar wood	.85@	1.10
Celery	16.50@	19.00
Chamomile Roman	250.00@	
Cinnamon bark oil	35.00@	42.00
Citronella, Ceylon	1.25@	1.40
Java type	2.25@	2.80
Cloves, Zanzibar	1.40@	1.60
Coriander	19.00@	22.00
Imitation	7.30@	8.85
Croton	4.75@	5.00
Cumin	6.35@	6.85
Dillseed	6.65@	7.00
Erigeron	2.30	Nom'l
Eucalyptus	1.05@	1.45
Fennell, Sweet	3.50@	4.20
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(Continued on page 207)

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INDEX TO ADVERTISERS

Advertising Corporation of America... —
Allondron, Inc. ..... —
Alrose Chemical Co.....192
Alsop Engineering Corp.....194
American Cholesterol Products, Inc....208
Aromatic Products, Inc.....115
Aroscent, Inc. 202
Atlas Powder Co.....112
Avon Allied Products, Inc.....117

Barnett, Samuel, & Sons.....188
Bennett, Albert R., Importer.....208
Blue River Plastics Mfg. Corp..... —
Bopf-Whittam Corp. 198
Braun Co., W.....201
Bridgeport Metal Goods Mfg. Co.....132
Broder Industries, Inc.....120
Bush & Co., Inc., W. J.....109, 197, 201
Bush Aromatics, Inc.....188

California Fruit Growers Exchange....116
Carbide & Carbon Chemicals Corp....178
Carr-Lowrey Glass Co..... —
Chaleyer, Ph., Inc.....182
Chiris Co., Inc., Antoine.....160
Citrus & Allied Essential Oils Co..... —
Classified Advertisements 204
Columbian Organic Chemical Co..... —
Consolidated Fruit Jar Co. 198
Consolidated Products Co., Inc.....204
Continental Chemical Co.....202
Cortizas, M., & Co..... —
Cosmetries, Inc. ..... —

Danco, Inc., Gerard J.....195
Dodge & Olcott, Inc.....121
Dow Chemical Co., The
Inside Back Cover
Dreyer, Inc., P. R.....118
Drury & Co., Inc., A. C.....114
du Pont de Nemours & Co., E. I.
Insert between 132-133
Duval, Compagnie (Div. of S. B. Penick & Co.) ..... —

Emulsol Corp. ..... —
Enjay Co., Inc.....189
Evans Chemetics, Inc..... —
Evans Chemicals, Limited..... —

Fairmount Chemical Co., Inc.....207
Felton Chemical Co., Inc...Facing Page 156
Fezandie & Sperrle, Inc.....198
Firmenich & Co.....140
Fleuroma, Inc. ..... —
Florasynth Laboratories, Inc.....127
Forster, René ..... —
French, Inc., Benj..... —
Fritzsche Bros., Inc., Insert between 116-117

General Drug Co.....200
Givaudan-Delawanna, Inc.
Insert between 156-157
Glass Industries, Inc..... —
Goldschmidt Corp., The..... —
Greater New Orleans, Inc..... —
Gunning & Gunning.....199

Hazel-Atlas Glass Co.....119
Helfrich Laboratories, Inc.....111
Herchelroth, Hilary J.....196
Heyden Chemical Corp..... —
Horn, John 198

Innis, Speiden & Company.Facing page 133
Interstate Color Co..... —

Katz, Dr. Alexander, & Co.—Essential Aromatics 166
Kelton Cosmetic Co.....186
Kimble Glass Co.....113
Koster-Keunen Mfg. Co., Inc.....186
Kraft Foods Co.....128
Kranich Soap Co.....124
Krause, Richard M.....206

Laboratoire Noel 174
Lachman-Novasel Paper Co..... —
Lanaetex Products Inc., The.....205
Lautier Fils, Inc.....190
Leeben Chemical Co., Inc..... —
Leonhard Wax Co., Inc., Theodor.... —
Lueders & Co., George.....110

Magnus, Mabee & Reynard, Inc..... —
Maryland Glass Corp.....158
Merck & Co., Inc.....125
Moutet, Henri J.....176
Murat Co., F..... —

National Starch Products, Inc.....126
Naugatuck Aromatics 134
New England Collapsible Tube Co.....138
Niel, Jean, Inc.....193

Norda Essential Oil & Chemical Co., Inc. 162
Northwest Chemical Co., The..... —

Orbis Products Corp..... —
Owens-Illinois Glass Co.....123

Parento, Inc., Compagnie.....122
Parsons, M. W.....191
Penick & Co., S. B..... —
Polak & Schwartz, Inc.....133
Powell & Co., Inc., John.....184
Private Label Cosmetic Co..... —

Remus & Co., Inc., Edward.....194
Reheis Co., Inc..... —
Reinhold Publishing Corp..... —
Revson Co., R. F.....208
Richford Corp. 196
Ritchie & Co., W. C.....Back Cover
Robert & Co..... —
Robert, Henri L., Inc.....180
Roure-Du Pont, Inc.....Facing Page 157

Savon Products Co..... —
Schimmel & Co., Inc.....168
Seeley & Company.....205
Sparhawk Co. 184
Standard Specialty & Tube Co.....192
Stanton Laboratories 200
Stiefel Medicinal Soap Co.....207
Summit Chemical Products Corp..... —
Swindell Bros. ..... —
Synfleur Scientific Laboratories, Inc....136
Syntomatic Corp. ..... —

Thurston & Braidich..... —
Tombarel Frères 170
Tombarel Products Corp.....170
Turner White Metal Co., Inc.....207

Ungerer & Co.....Inside Front Cover
U. S. Industrial Chemicals, Inc.
Insert between 164-165

van Ameringen-Haebler, Inc.....130, 131
Vanderbilt Co., Inc., R. T.....199
Van Dyk & Co., Inc.....129
Verley and Company, Albert
Insert between 124-125
Voss Corporation, Karl.....190

Whitaker, Clark & Daniels, Inc.
Insert between 172-173
Will & Baumer Candle Co., Inc.....200
Wirz, Inc., A. H.....Front Cover

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(Continued from page 205)

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C 9	14.00@	
C 10	4.25@	4.50
C 11	14.50@	
C 12	4.25@	4.50
Aldehyde C 8	11.00@	12.00
C 9	19.00@	20.00
C 10	7.00@	8.50
C 11	22.00@	24.00
C 12	15.50@	17.00
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C 16 (Strawberry so-called)	7.65@	8.25
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Amyl Cinnamate Aldehyde	2.85@	3.25
Amyl Formate	1.00@	1.25
Amyl Phenyl Acetate	4.10@	4.85
Amyl Salicylate	.87@	.90
Amyl Valerinate	2.00@	2.25
Anethol	.65@	.75
Anisic Aldehyde	2.60@	3.25
Benzophenone	1.15@	1.30
Benzyl Acetate	.65@	.75
Benzyl Alcohol	.75@	1.00
Benzyl Benzoate	1.05@	1.20
Benzyl Butyrate	2.00@	2.25
Benzyl Cinnamate	3.75@	4.25
Benzyl Formate	2.25@	2.50
Benzyl-Iso-eugenol	9.00@	9.75
Benzyl Propionate	2.00@	2.15
Bornyl Acetate	2.25	Nom'l
Bromstyrol	5.75@	6.35
Butyl Acetate	.19½@	.19¾
Cinnamic Alcohol	3.10@	3.60
Cinnamic Adlehyde	1.00@	1.10
Cinnamyl Acetate	4.75@	5.50
Cinnamyl Butyrate	12.00@	14.00
Cinnamyl Formate	10.00@	13.00
Citral, C. P.	4.25@	4.75
Citronellol	7.50@	10.00
Citronellyl Acetate	9.25@	12.00
Coumarin	2.75@	2.90
Cuminic Aldehyde	7.75@	10.00
Diethylphthalate	.38@	.40
Dimethyl Anthranilate	4.55@	5.00
Ethyl Acetate	.35@	.40
Ethyl Anthranilate	5.50@	7.00
Ethyl Benzoate	.65@	.90
Ethyl Butyrate	.80@	.90
Ethyl Cinnamate	2.55@	3.00
Ethyl Formate	.65@	.75
Ethyl Propionate	.90@	1.00
Ethyl Salicylate	.90@	1.00
Ethyl Vanillin	6.75@	6.80
Eucalyptol	2.50@	3.25
Eugenal	2.55@	3.00
Geraniol, dom.	8.00@	9.75
Geranyl Acetate	7.50@	8.75
Geranyl Butyrate	10.25@	10.75
Geranyl Formate	12.50@	14.00
Heliotropin, dom.	3.35@	3.80
Hydrotropic Aldehyde	6.95@	7.50
Hydroxycitronellal	14.20@	14.85
Indol, C. P.	20.00@	23.00
Ionones		
Beta	8.75@	11.80
Methyl	8.00@	9.25
Iso-borneol	1.30@	1.50
Iso-butyl Acetate	1.05@	1.75
Iso-butyl Benzoate	1.35@	2.50
Iso-butyl Salicylate	2.35@	3.00
Iso-eugenol	3.50@	3.80
Iso-safrol	1.50@	2.00
Linalool	5.75@	6.50
Linalyl Acetate 90%	7.00@	7.50
75%	5.80@	6.20
Linalyl Anthranilate	15.00@	
Linalyl Benzoate	10.50@	
Linalyl Formate	13.00@	15.00
Menthol	8.10@	8.35
Methyl Acetophenone	1.40@	1.80
Methyl Anthranilate	2.25@	2.40
Methyl Cellulose, f.o.b., shipping point	.60	Nom'l
Methyl Cinnamate	2.00@	2.50
Methyl Eugenol	4.00@	6.25
Methyl Heptenone	3.50	Nom'l
Methyl Heptine Carbonate	45.00@	60.00
Methyl Iso-eugenol	5.85@	10.00
Methyl Octine Carbonate	24.00@	30.00
Methyl Naphthyl Ketone	3.25@	3.40
Methyl Phenylacetate	2.50@	3.00
Methyl Salicylate	.42@	.45
Musk Ambrette	8.25@	10.00
Ketone	4.95@	5.50
Xylene	1.70@	2.05
Neroline (ethyl ether)	1.85@	2.25
Paracresyl Acetate	2.25@	2.80
Paracresyl Methyl Ether	2.60@	3.50
Paracresyl Phenyl-acetate	4.75@	5.25
Phenylacetaldehyde 50%	2.50@	2.65
100%	4.20@	4.75
Phenylacetic Acid	1.75@	2.25
Phenylethyl Acetate	2.40@	3.10
Phenylethyl Alcohol	2.10@	2.30
Phenylethyl Anthranilate	16.00@	

(Continued on page 208)

Aromatic Chemicals

FOR PERFUMERY AND FLAVORS

Isopropyl Quinoline	Ethyl Anthranilate
Isobutyl Quinoline	Butyl Anthranilate
Tertiary Butyl Quinoline	Butyl Betanaphthol
Skatol	

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(Continued from page 207)

Phenylethyl Butyrate	4.65@	5.00
Phenylethyl Propionate	3.90@	4.40
Phenylethyl Valerianate	7.50@	8.10
Phenylpropyl Acetate	5.50@	5.70
Safrol	1.20@	1.60
Scatol C. P. (oz.)	5.35@	6.00
Styrolyl Acetate	2.50@	3.00
Vanillin (clove oil)	4.50@	4.65
(guaiacol)	3.00@	3.05
Lignin	3.00@	3.05
Vetivert Acetate	70.00@	75.00
Violet Ketone Alpha	18.00	Nom'l
Beta	15.00	Nom'l
Methyl	6.50	Nom'l
Yara Yara (methyl ester)	1.85@	2.20

BEANS

Tonka Beans Surinam	.85@	.95
Angostura	1.70@	1.80
Vanilla Beans		
Mexican, whole	10.50@	12.00
Mexican, cut	9.00@	9.50
Bourbon	7.75@	8.00
Tahati	4.50@	5.00

SUNDRIES AND DRUGS

Acetone	.07@	.12
Ambergris, ounce	8.50@	18.00
Balsam, Copaiba	.80@	.95
Peru	.95@	1.00
Beeswax bleached, pure U. S. P.	.70@	.71
Yellow, refined	.64@	.65
Bismuth, subnitrate	2.15@	2.28
Borax, crystals, carlot ton	55.50@	58.00
Boric Acid, U. S. P., ton	129.00@	133.50
Calcium, phosphate	.08@	.08¾
Phosphate, tri-basic	.0635@	.0680
Camphor pwd., domestic	.75@	.77
Castoreum, natural	12.00@	13.00
Cetyl, Alcohol	2.10@	2.35
Chalk, precip. bags, cltns.	.02⅞@	.03
Cherry Laurel Water, jug, gal.	2.10@	2.50
Citric Acid	.23@	.26
Civet, ounce	8.00@	22.00
Cocoa, Butter, bulk	.38@	.40
Cyclohexanol (Hexalin)	.21½@	.22
Fuller's Earth, Mines ton	27.00@	30.00
Glycerin, C. P.	.29½@	29¾
Gum Arabic, white	.29@	.32
Amber	14½@	.15¼
Powdered, U.S.P.	.19½@	.21
Gum Benzoin, Siam	4.00@	4.50
Sumatra	.48@	.55
Gum Galbanum	1.00@	1.10
Gum Myrrh	.48@	.50
Henna, pwd.	.35@	.40
Kaolin	.05@	.07
Labdanum	5.00@	7.00
Lanolin, hydrous	.25@	.26
Anhydrous	.28@	.29
Magnesium, carbonate	.11@	.12¼
Stearate	.48@	.49
Musk, ounce	28.00@	55.00
Olibanum, tears	.26@	.35
Siftings	.12½@	.14
Orange Flower Water, gal.	1.75@	2.25
Orris Root, Italian	.24@	.35
Paraffin	.04@	.06
Peroxide (hydrogen) N.S.P. bbls.	1.10@	1.75
Petrolatum, white	.07¼@	.09¾
Quince Seed	1.65@	1.90
Rice Starch	Nominal	
Rose Leaves, red	3.45@	4.00
Rose Water, jug (6.6 gal.)	4.50@	6.00
Rosin, M. per cwt.	8.20@	8.25
Salicylic Acid	.40@	.42
Saponin	1.75@	2.00
Silicate, 40°, drums, works, 100 pounds	.95@	1.20
Soap, neutral, white	.20@	.25
Sodium Carb. 58% light, 100 pounds	1.60@	2.70
Hydroxide, 76% solid, 100 pounds	2.90@	3.75
Spermaceti	.45@	.59
Stearate Zinc N.S.P.	.47@	.48
Styrax	1.25@	1.60
Tartaric Acid	.50@	.50½
Tragacanth, No. 1	3.60@	4.00
Triethanolamine	.19½@	.20½
Violet Flowers	2.00	Nom'l
Zinc Oxide, U. S. P. bbls.	12¾@	.14

OILS AND FATS

Castor No. 1, tanks	.27@	
Cocoanut, Ceylon type, Atlantic ports, tanks	.12¼@	
Corn, crude, Midwest, mill, tanks	.23	Nom'l
Corn Oil, distilled, tanks	.26@	
Cotton, crude, tanks	.22@	.22½
Grease, white	.11¾@	.12
Lard, Chicago	.18¾	Nom'l
Lard Oil, common, No. 1 Chicago, bbls.	.17@	
Palm Niger, drums	Nominal	
Peanut, refined, drums	.26	Nom'l
Red Oil, distilled drums	.18¾@	.19¾
Stearic Acid Triple Pressed	.26¼@	
Double Pressed	.24@	
Tallow, acidless, drums, Chicago	.19½@	
Tallow, N. Y. C., extra	.11¾@	
Whale oil, refined	Nominal	

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